

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1359.—Vol. XXXI.

LONDON, SATURDAY, SEPTEMBER 7, 1861.

(STAMPED.....SIXPENCE.
(UNSTAMPED.....FIVEPENCE.

MR. JAMES CROFTS, SHAREBROKER,
No. 1, FINCH LANE, CORNHILL. (Established 17 years.)
Mr. Crofts is a BUYER of shares in the following mines (cash on receipt of transfer, or exchange made for other shares):—Brynford Hall, Great Martha, East Caradon, East South Tolgus, Herodfoot, Wheel Norris, Marke Valley, North Miners, North Miners, Carn Camborne, Great Retallack, Dale, Great Alfred, Alfred Consols.
Mr. Crofts is a SELLER of 23 Rosewarne and Herland, at 1s. 6d. per share net. The section of the late Lamheroe Wheel Martha Mine, now leased by the EAST WHEAL MARTHA COMPANY, in 6000 shares, has excellent chances of success. Mr. Crofts having acted as secretary to the Lamheroe for nearly ten years is acquainted with the merits of the new mine, and will answer enquiries from the investing public.
*Holders of mining shares DIFFICULT OF SALE in the OPEN MARKET may hear of purchasers, and also parties IN ARREAR OF CALLS, or sued by merchants, may learn their true legal position and be advised how to act, by applying to Mr. Crofts.
SPECIAL BUSINESS IN EAST WHEAL MARTHA (LIMITED) paid-up shares, £1 10s. each. *A liberal price will be given for 5 Brynford Hall.

MR. JAMES LANE, No. 44, THREADNEEDLE STREET, LONDON, E.C.
JAMES LANE has FOR SALE, at nett prices:—10 Alfred Consols, £1; 5 Billins, £17½; 25 Carn Camborne, 27s. 6d.; 20 Crebor, 11s.; 20 Devon Union, 50 Dale, 15s.; 10 East Caradon, £28½; 10 East Trekerby, 25s.; 10 East Russell, £35½; 50 Great Wheel Martha, 37s. 6d.; 5 Gouanema, £2½; 25 Great Retallack, 28s.; 2 Herodfoot, £35; 25 Lady Bertha, 17s.; 5 Ludcott, £3½; 20 Lady Eliza, 7s. 6d.; 2 Mary Ann, £10; 20 Marke Valley, £10½; 20 North Hallenbeagle, 21s.; 10 North Downs, £5½; 20 North Nant-y-Mwyn, 6s.; 2 Pant-y-bonarth, £6; 20 Penhale Moor, £1½; 10 Port Phillip, 21s.; 5 Rosewarne Consols, 23s.; 20 South Condurrow, 9s. 6d.; 3 Trelawny, £14½; 2 West Caradon, £35; 20 Wheel Moyle, £3; 1 West Rose Down, £21; 5 Wheel Anne, 25s.; 25 Ribden, 5s. 6d.; 20 Sorridge, 11s. 6d.; 1 and 5 Trumpet United, 12s.; BUYER of Wheel Wry, East Phoenix, and Great Martha.

PETER WATSON, ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES,
79, OLD BROAD STREET, LONDON, E.C.
Telegraphic messages to Buy or Sell Mine Shares punctually attended to.

MR. W. LELEAN, MINE SHAREBROKER,
11, ROYAL EXCHANGE, LONDON, E.C.

MR. THOMAS SPARGO, SHAREBROKER,
224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.
Commission, 2½ per cent.

MR. E. GOMPERS, MINING OFFICES,
3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.
BUSINESS TRANSACTIONS IN BRITISH AND FOREIGN STOCKS AND SHARES.
Terms, 1½ per cent.—Bankers: London and Westminster Bank.

MR. T. ROSEWARNE, 75, OLD BROAD STREET, LONDON, E.C., has FOR SALE:
Birch Tor & Viller, 40s. Gawton, 4s. South Frances, £122½.
Bedford Consols, 3s. Great St. Aubyn, £10. St. Day United, 11s.
Calstock, 12s. 6d. (10s. call paid). Great Wh. Martha, 41s. 6d. So. Caradon Hooper, 21s.
Creake, £2½. Lady Bertha, 17s. Wheel Edward, 35s. 9d.
Drake Wells, 21s. North Downs, £5½. Wheel Moyle, 3s. 6d.
East Russell, £35½. North Trekerby, £24. West Caradon, 27s. 6d.
East Caradon, £28½. North Miners, 27s. 6d. Wheel Norris, 37s. 6d.
East Devon Cons., 40s. Felyn Wood, 1s. 9d. Wheel Arthur, 8s. 9d.
East Grenville, 41s. Stray Park, £28½. Wheel Seton, £28½.
East Carn Brea, £29½. Sorridge, 12s. West Polmar, 17s. 6d.
And is a BUYER of: Marke Valley, North Frances, Wheel Mary Ann, North Roberts, Tincroft, Tolvaaden.

MR. R. H. M. JACKMAN, MINING AND SHAREBROKER,
2, ADAM'S COURT, OLD BROAD STREET, TRANSACTIONS BUSINESS IN EVERY DESCRIPTION OF SHARES, at closest prices nett, or on commission, but not being a dealer buys and sells only on orders confined to him.
SHARES FOR SALE, free of any commission:—
10 Ludcott, £3½. 10 Kelly Bray, 15s. 5 Alfred Consols, 18s.
30 Wheel Wry, 4s. 6d. 50 Meland, 1s. 6d. 40 Unity, 22s.
Sept. 6, 1861. Bankers: London and Westminster, Lothbury.

MR. JAMES HUME, SHAREBROKER, 74, OLD BROAD STREET, LONDON, E.C.
The "Mining Share Monitor," published monthly, contains valuable information on the soundest dividend and progressive mines. Free for 6d., or 6s. per annum. Advice to capitalists by letter or personally.
Bankers: London Joint-Stock Bank.

MESSRS. R. HORLEY AND CO., SWORN STOCK, SHARE, AND MINING BROKERS, 45, CORNHILL, E.C. (late of 2, Royal Exchange-buildings), continue to TRANSACT EVERY DESCRIPTION OF MINING BUSINESS, and are in a position to obtain reliable information respecting all dividend and progressive mines.
N.B.—Messrs. HORLEY and Co. publish a Weekly Mining List, with the closing prices every Wednesday, and will be most happy to forward the same (gratis) on application.

MR. GEORGE BATTERS, 5, COWPER'S COURT, BIRCHIN LANE, DEALER IN BRITISH MINING SHARES AND OTHER SECURITIES.
Mr. BATTERS, from long experience and intimate acquaintance with all Mining Stocks, can advise as to investment of capital, at closest market prices, and has made a selection of Dividend paying and sound Progressive Stocks in which he can with confidence recommend investments at present depressed prices. The favourable turn in the market for metals, and the reduction in the Bank's rate of interest, would point to prices having seen their lowest for the present.
Mr. BATTERS is a BUYER of Great Wheel Martha, East Carn Brea, North Miners, South Carn Brea, Brynford Hall, Cook's Kitchen, Wheel Unity, Great Retallack, East Caradon, Marke Valley, and Wheel Edward. And is a SELLER of 10 Wheel Ludcott, £24; 25 Wheel Grenville, 34s.; 20 Wheel Trelawny, £14; 100 Wheel Unity, £1½; 5 Stray Park, £28½; 2 South Frances, £122½; 2 Providence, £41; 10 East Carn Brea, £29½; 50 East Grenville, 41s.; 75 Great Wheel Martha; 20 Marke Valley, £10½; 50 Merlyn, 20s.; 100 Lady Bertha, 17s. 6d.; 5 Cook's Kitchen, £30½; 2 Caradon Consols, £29½; and 60 North Miners, 27s. 6d.

MR. GEORGE BUDGE, SHAREBROKER, No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 25 years), has FOR SALE the following shares:—30 Creake, £24s.; 50 Dale, 15s. 6d.; 100 Great Trelawny, 15s.; 100 East Wheel Martha (fully paid); 10 Marke Valley, £10 4s. 6d.; 100 North Nant-y-Mwyn, 6s.; 20 Trelawny, £2; 2 South Wheel Frances, 124½; 20 Tolcarne, £24½; 10 East Caradon, £28; 50 Great Retallack, 25s.; 3 Rosewarne United, £22; 5 Stray Park, £28½; 50 North Miners, 28s. 6d.; 2 Wheel Basset, £29; 45 North Downs, £5½; 25 Hington Down; 5 Caradon Consols, £7½; 50 South Butler and West Penwithall; 10 Wheel Harrie; 2 West Bryn Gwilog, £29½; 2 West Seton, £29½; 3 Long Rake; 4 Cook's Kitchen, £29½; 5 Billins, £17½; 1 South Caradon, £40s.; 25 Great South Tolgus; 100 Kapunda, £24s.; 25 Port Phillip (Gold), 24s.; 5 St. John Del Rey, £36½; 100 Worthing; 200 Bon Accord, 28s. 6d.; 25 Fendoe, £2½; 20 New Treligh, 34s.; 20 Darlo; 5 South Bryn Gwilog; 50 Okel Tor, 24s.; 1 Devon Great Consols; 40 Deep Level, 12s. 3d.; 50 East Grenville, 39s. 6d.; 50 West Polmar; and 80 Unity Consols.
Holders of mining shares difficult of sale may find purchasers through Mr. Budge.

Daily lists of prices forwarded on application.

MESSRS. TREDINNICK AND CO., MINING ENGINEERS,
SEND their SELECTED LIST OF SOUND PROGRESSIVE AND DIVIDEND SHARES upon the receipt of a Fee of One Guinea.
Review of Cornish and Devon Mining Enterprises, 6s. per copy.
Maps per post of the Buller and Basset, Great Yor, Alfred Consols, the Providence and Cornish Mines, 2s. 6d. each.
Margaret Mines, well selected, pay better than any other description of securities, are free from risks, and entail less responsibilities than banks and other joint-stock companies. Shares bought and sold on commission of 2½ per cent.
Money advanced at 10 per cent. annually, for short or long periods, upon approved Mining Shares.—78, Lombard-street, London, E.C.

BRITISH AND FOREIGN STOCK, RAILWAY, AND MINING SHARES BOUGHT AND SOLD. A considerable amount of money is locked up in mining shares not prominently before the public, and consequently difficult of sale. Messrs. FULLER and CO., 26, CHANGE ALLEY, CORNHILL, LONDON, invite the holders of such stock to communicate with them, having channels for the purchase and sale of shares of every description, independent of the mining market.
FOR SPECIAL SALE:—Messrs. FULLER and Co. have £6500 worth of shares on hand, paying regular dividends of from 12½ to 15 per cent. Also, £2750 worth of progressive shares, upon which from 200 to 300 per cent. profit may be realised in a few months, and perfectly free from risk. Full particulars may be had.
Telegraphic messages promptly attended to.
Bankers: Bank of England.

G E O R G E M O O R E,
1, CROWN COURT, THREADNEEDLE STREET.
In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

JAMES HERRON has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION:
20 Alfred Consols, 18s. 9d. 2 Gr. Fortune, £12 15s.
30 Angraek, 8s. 9d. 50 Great Retallack, 26s. 9d.
60 Bon Accord, 10 Hings. Down, £3 5s.
1 Bryn Gwilog, £23½. 2 Herodfoot, £26½.
5 Billins, £17½. 5 Horward Utd., £10 18 9
1 Brynford Hall, £22. 1 Kitty (Lelant), £7 18s 6d
35 Buller and Basset. 20 Kelly Bray, 18s. 9d.
2 Carn Brea, £72. 40 Lady Bertha, 16s. 9d.
2 Cobre, £37½. 40 Lady Eliza, 9s. 9d.
40 Cefn Cioen, 14s. 6d. 20 Linares, £7½.
20 Camborne Veau, 48s. 9d. 50 Long Rake, £12 18s. 9d.
40 Carn Camborne, 10 Ludcott, £3 5s.
5 Caradon Cons., £7½. 5 Marke Valley, £10½.
1 Cargoll, £15½. 20 Merlyn, 12s.
50 Crookhaven. 100 Molland, 11d.
5 Calvadnaek, £28½. 2 Mary Ann, £10 17s. 6d.
20 Cuddern, 37s. 9d. (including call). 20 North Miners.
20 Creake. 50 North Basset, £25 8s 9d
20 Central Miners (an offer wanted). 1 North Trekerby, £23½.
20 Dale, 15s. 6d. 10 North Downs, £5½.
20 Deep Level, 12s. 3d. 40 New Treligh, 39s. 6d.
40 Drake Wells, 17s. 9d. 100 Nantoes and Penhiw.
1 Devon Great Cons., £35½. 1 New Seton, £27½.
10 East Russell, £3 10s. 50 North Rhine, 7s. 6d.
5 East Carn Brea, £29½. 20 Nant-y-Iago, 24s. 9d.
50 East Grenville, 40s. 10 North Crofty, £5 5s.
5 E. Caradon, £28 5s. 10 New Frances, 11s. 6d.
20 English and Australian. 2 North Roake, £17½.
Copper, £2 10s. 9d. 10 North Buller (an offer wanted).
40 East Wheel Martha, 5s. 20 Old Tolgus.
20 East Kongsberg (fully paid up £5), 37s. 6d. 20 Okel Tor, 21s. 6d.
20 East Rosewarne. 60 Port Phillip, 21s. 9d.
30 East Wh. Martha (fully paid up). 2 Providence, £39½.
2 East Basset, £25. 50 Prosper United.
5 Great St. Tolgus, £4 4s. 1 Rosewarne Utd., £24½.
1 Granbler, £10 18s. 9d. 20 Rosewall Hill & Ransom, 28s. 9d.
15 Great Alfred, 8s. 9d. 20 Ribden, 5s.
30 Great Moelwyn (£110s. paid), 16s. 6d. 20 Rosewarne and Herland (offer wanted).
15 Gouanema, £2. 10 St. John Del Rey, £38½.
50 Great Vor. 5 Stray Park, £28½.
50 Gr. Northern Copper, 30s. 30 South Condurrow, 9s. 9d.
And is a BUYER of 20 Old Tolgus United, 100 Rosewall Hill and Ransom United, 200 West South Caradon, 150 North Miners, and 5 Trelawny.
2, Adam's-court, Old Broad-street, September 6, 1861.

MESSRS. VIVIAN AND REYNOLDS, 68, OLD BROAD STREET, LONDON, E.C., MINING ENGINEERS, INSPECTORS OF MINES, COMMISSION, AND GENERAL AGENTS FOR THE PURCHASE OR SALE OF MINE SHARES, RAILWAY, AND EVERY OTHER DESCRIPTION OF STOCK.
Commission on share transactions, 1½ per cent. on £100 and above, and 2½ per cent. for less sums.

MR. C. POWELL, MINE SHAREBROKER,
2, SPREAD EAGLE COURT, FINCH LANE, LONDON, E.C.

MR. EDWARD COOKE, 5, HERCULES PASSAGE, THREADNEEDLE STREET, LONDON, E.C., will feel much pleasure in advising those who may favour him with their confidence on the merits of the various mines usually dealt in, and also on any new concerns that are from time to time brought before the notice of the public. Much loss and disappointment may be prevented by a proper amount of caution on the part of the investor. From frequent personal visits into the mining districts, together with many years' experience of the mining market, EDWARD COOKE hopes to be enabled to render sound advice to parties availing themselves of his services, and prompt cash in all transactions entrusted to his charge.
PURCHASES AND SALES IN RAILWAY AND ALL OTHER SHARES effected at the usual commission. BUYER of Tincroft, at 25½.
Sept. 6, 1861. Bankers: London and Westminster, Lothbury.

MR. J. S. PHILLIPS, C.E. AND M.E., SHAREBROKER, &c.,
12, ST. MICHAEL'S ALLEY, CORNHILL, LONDON, is now on a tour through the Cornish mines.

MR. J. SYKES, LEEK, STAFFORDSHIRE, is in a position to advise speculators as to the purchase of shares which will increase in value 100 per cent. in twelve months. The opportunity should not be lost. He will guarantee 25 per cent. of the loss, if he be allowed 25 per cent. of the profits.
WANTED:—100 Dale, and 100 Ribden, state lowest price.
FOR SALE:—20 Great Retallack, 24s.; 10 Lady Bertha, 18s.; 10 Crebor, 12s.

WILLIAM SEWARD, MINING BROKER, STOCK AND SHAREDEALER, 26, THROGMORTON STREET, LONDON, E.C.
Commission, 1½ per cent. on £100 and above, and 2½ per cent. on less sums.

RICHARD CLIFT, MINE SHAREDEALER,
late of Redruth, now 48, THREADNEEDLE STREET, LONDON, where all letters are to be addressed.

MR. JOSEPH GREGORY, MINING OFFICES,
1, BANK CHAMBERS, LOVBURY, E.C.
BUSINESS TRANSACTIONS IN BRITISH AND FOREIGN STOCKS AND SHARES.
Terms, 1½ per cent. on £100 and above, 2½ per cent. on smaller sums.
Bankers: City Bank, Threadneedle-street.

JOHN GLEDHILL AND CO., MINE AGENTS AND SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.
STOCK AND CO. LEAD AND SILVER SMELTERS,
PENCLAWDD, NEAR SWANSEA.

MESSRS. THOMAS PENROSE AND THOMAS PRICE
UNDERTAKE ASSAYS AND ANALYSES OF EVERY DESCRIPTION OF MINERAL PRODUCT, FUEL, AND MANURES, at Messrs. Richardson and Co.'s Assay Office and Laboratory, Copper Ore Wharves, Swansea.

MESSRS. C. TOOKEY, F.C.S., AND M. W. JOHNSON, F.C.S.,
ASSAYERS, ANALYSTS, AND CONSULTING CHEMISTS.
LABORATORIES, 44, LINCOLN'S INN FIELDS, W.C.

CHARLES DAVEY AND CO.,
SAFETY FUSE MANUFACTURERS,
ST. HELEN'S JUNCTION, LANCSHIRE.

THE MIDLAND IRON COMPANY, ROTHERHAM,
MANUFACTURERS OF BEST "YORKSHIRE," and OF STEEL IRON TYRE BARS, FOR LOCOMOTIVE ENGINE, CARRIAGE, AND WAGON WHEELS. Also of REFINED, SCRAP, STEEL IRON and "YORKSHIRE" BARS, HOOPS, RAILS, ANGLE IRON, MALLEABLE SHAFTS, AXLES AND FORGINGS.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OZZELL STREET NORTH, BIRMINGHAM.
STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—
REFINED METALLIC NICKEL. OXIDE OF COBALT. [WIRE, &c.]
REFINED METALLIC BISMUTH. GERMAN SILVER—IN GOUGES, SHEET
NICKEL AND COBALT ORES PURCHASED.

A LARGE FORTUNE may be REALISED FOR ONE POUND
only.—For particulars, apply to Mr. FREDERICK SIXT, banker, of Frankfurt-on-the-Maine, or letters addressed to him, 28, Clement's-lane, Lombard-street, London.

BELL BROTHERS beg to intimate that, having become SOLE LICENSEES in the United Kingdom of PROF. DEVILLE'S METHOD OF PRODUCING PURE ALUMINIUM, they are now in a POSITION to SUPPLY, from their works here, both this metal and its compound with copper, known under the name of ALUMINIUM BRONZE.—Newcastle-on-Tyne, September, 1860.

MR. MURCHISON'S REVIEW OF BRITISH MINING
FOR THE QUARTER ENDING 30TH MARCH, 1861, IS NOW READY.
Price One Shilling. At 117, Bishopgate-street Within, London, E.C.

MR. T. P. THOMAS, MINING AGENT AND AUCTIONEER, 2, CROWN COURT, THREADNEEDLE STREET, LONDON.

MR. T. E. W. THOMAS, MINING AGENT AND GENERAL MINING SHAREDEALER, 16, HACKINS HEY, LIVERPOOL.

JOHN R. PIKE, GENERAL SHAREDEALER,
3, PINNERS COURT, OLD BROAD STREET, E.C.

FREDERICK WILLIAM MANSELL, MINING OFFICES,
1, HATTON COURT, THREADNEEDLE STREET, LONDON, E.C.
Bankers: London Joint-Stock Bank.

MR. JAMES HAMMON, STOCK AND SHAREDEALER,
1, CROWN COURT, THREADNEEDLE STREET, LONDON.

JOHN RISLEY, SHAREBROKER,
32, LOMBARD STREET, LONDON, E.C.

GEORGE RICE, SHAREBROKER, 1, FINCH LANE, CORNHILL, has BUSINESS in 10 Caradon Consols, 20 East Russell, 100 East Grenville, 30 East Caradon, 5 Grambler, 20 Hington, 50 Great Retallack, 30 Lady Bertha, 50 Merlyn, 2 North Trekerby, 20 Marke Valley, 2 Stray Park, 20 Tolvaaden, 3 West Caradon, 100 Unity, 100 Sortridge Consols, 100 Fowey and Par United, 16 Wheel Ludcott. The market closes good, and prices generally have an upward tendency. Buyers should give their orders without delay, and not limit them to buying for immediate delivery, as in most cases such orders cannot be executed, and delays must arise, resulting in the purchaser having his shares at an unnecessarily increased price. Mining shares should be negotiated according to custom of Stock Exchange.
There are still several good shares which might be bought for a further rise. (List will be sent on application.) There are others upon which profits should be at once realised. East Caradon have had a rise from £24 to £25. A rise in value of the entire mine of £24,570. It now stands at £172,000 for the whole mine. At this price the present dividends will only give £7 to £10 per cent. When the shares a few months since were at £28 I advised my clients to sell. Those who acted upon that advice made great profits, as the price shortly after fell to £23. At that time the lode at the 60 east was worth £110 per fm., and west £140 per fm. The present values (same as for several weeks past) are respectively east £90; west £20. The present high price is owing not to any improvement in the mine as to market operations. I am, therefore, led to repeat my advice, and advise immediate sales, that the highest profits might be secured before the price again declines.

VIRTUOUS LADY MINE.—In consequence of the death of one of the two parties who were working the above mine, it is intended to SELL the WHOLE of this VALUABLE SETT, together with ALL the MATERIALS, consisting of SEVERAL WATER-WHEELS, CRUSHER, &c. To any party desirous of forming a limited liability company a most favourable opportunity is now offered. The property has been inspected by Capt. J. H. Reynolds, John Prince, and others, whose reports, and all other particulars relative to the above, may be had on application to Mr. E. COOKE, 5, Hercules-passage, Threadneedle-street, London. N.B. There is ample water-power for all purposes.

DEVON NEW COPPER MINING COMPANY (LIMITED).—THREE HUNDRED AND FIFTY paid-up (£2) SHARES in this mine TO BE SOLD, at £1 per share.—Apply to Messrs. Ellis and Co., No. 2, Royal Exchange-buildings, London.

HIRNANT LEAD MINING COMPANY.—TO BE SOLD,
TEN £1 paid-up SHARES of the above MINE. To be disposed of below the market value.—Apply at the Telegraph office, Wrexham.

**MERSEY DOCK ESTATE.—THE MERSEY DOCKS AND HARBOUR BOARD REQUIRE THE SERVICES OF A COMPETENT PERSON TO FILL THE POSITION OF ACTING RESIDENT ENGINEER, and to take charge of such works as are now in progress of execution, as well as those in operation. The salary will be £1500 per annum.
Testimonials as to competency, and of having had experience in works of a similar character, must be forwarded to the Secretary of the Mersey Board on or before the 1st October next.
By order, DANIEL MASON, Sec.
Dock Office, Liverpool, September 5, 1861.**

WANTED, an OFFER for ONE HUNDRED AND EIGHT SHARES in OKEL TOR MINE.—Address, "G. K.," 2, Albert-place, New Charlton, Kent.

ON SALE, from FORTY to FIFTY IRONSTONE or COAL WAGONS.—Apply to the Trustees of the late J. HEATH, Esq., Tunstall, Staffordshire.

ON SALE, an EXCELLENT SLATE QUARRY, on reasonable terms.—For further particulars, apply to "D. R.," slate rock inspector, Llanllanfyl, Carnarvon.

SLATE QUARRIES TO BE SOLD, OR LEASED, on fair terms, situate 14 miles from the city of Waterford, Ireland. Samples of the slate can be seen at Messrs. GRANTOFF and Co.'s, 4, Lime-street-square, City, where owner can be seen for further information.

VALUABLE TIN MINE.—A FEW GENTLEMEN have SPENT A LARGE SUM OF MONEY IN OPENING AN EXCELLENT TIN MINE IN CORNWALL, and there is no doubt that it will soon give large profits. AN INTEREST THEREIN, and also in TWO OTHER FIRST-RATE MINES in full working, certain soon to pay well, MAY BE OBTAINED by bona fide investors in bona fide mines on application to JAMES HOLLOW, Mining Offices, Lelant, Hayle, Cornwall. September 4, 1861.

FOR SALE, EIGHT AND NINE INCH LIFTS, complete. Apply to Mr. JAMES HOLLOW, Mining Offices, Lelant, Hayle.

WIRE ROPES.—WANTED, an AGENT for the SALE of WIRE ROPES in the MINING DISTRICTS. Parties who have been already in the business, and who are still in connection with the mines, will be preferred.—Address, "A. W. R.," 20, Hatton-garden, London.

THE ADVERTISER WISHES TO MEET with ONE or TWO GENTLEMEN who would TAKE THE INTEREST of two about to retire from a FIRST-CLASS PRIVATE CONCERN, PAYING OVER THIRTY PER CENT. on the invested capital. The amount required is not large, and one would be expected to keep the accounts of the concern, for which a liberal salary is allowed.—Address, "F. E.," Mining Journal office, 26, Fleet-street, London, E.C.

TO CAPITALISTS IN CONNECTION WITH THE COAL AND IRON TRADES.—WANTED, by an IRON COALMASTER, a PARTNER or PARTNERS, who can furnish about £10,000 by instalments, and keep £5000 to be further brought in, if required, within a period of two or three years, making together £15,000, for a MOIETY of a PIG IRONWORK and EXTENSIVE COAL WORKS in WALES, which are capable of an immediate return, and with a little further outlay (part of the capital now required) will make a profit exceeding £20,000 per annum fixed, certain, and free from risks. The property is a most eligible one, on the South Wales Railway, near the best Welsh ports, within an 8s. rate of London, and where forge pig and foundry pig of the best quality, as well as tin-plate pig-iron, can be made at an average cost of 35s. per ton, and coal put in the railway wagons on the rail at 3s. per ton, with most extensive markets open. The property is extensive, and contains abundance of the best coal, house, steam, iron making, and coaling, as well as black band, claystone, and hematite ore, of which there is a fine field, known as the Llantrisant Mine. The railway passes through the property.—Apply to "E. D.," Mining Journal office, 26, Fleet-street, London, E.C.

TO CAPITALISTS.—WANTED, a PARTNER who can invest a few hundred pounds to WORK a COLLIERY situate in the FOREST OF DEAN, GLOUCESTERSHIRE, already thoroughly opened on four of the best seams of red ash coal in the district. The colliery has been producing coal for some time, which has hitherto been shipped at Lydney Basin, and a satisfactory market has been secured for it. With a small additional outlay a vend of at least 70 tons of coal daily may be obtained.—For further particulars and to treat, apply to "Y. Z.," Post-office, Lydney, Gloucestershire.

TO RAILWAY CONTRACTORS' ENGINEERS.—WANTED to go to the Peninsula, a YOUNG MAN COMPETENT to LAY DOWN a short LINE for MINERAL TRAFFIC. Must be an expert leveller, accustomed to superintending earthworks, and habituated to laying down sharp curves. A second-class engineer, who has been employed on a Welsh line, would be preferred. He will be accompanied by an English plate-layer.—Apply first by letter, stating particularly the works the applicant has been employed on, and the nature of the certificates he can procure relative to his capabilities, to F. T. BAKER, 1, Adelaide-place, London-bridge, E.C.

TO COLLIERY PROPRIETORS.—IMPROVED SELF ACTING TIPPLERS and SCREENS, for LOADING COALS at the PITS with dispatch, and ENTIRELY PREVENTING BREAKAGE. Manufactured by WILLIAMS and MOWLE, Egerton-street Foundry, Chester, where models and testimonials may be seen, and every information obtained. Prices moderate. Delivered at any railway station.

Original Correspondence.

PRACTICAL PAPERS ON COLLIERY OPERATIONS—No. XIII.
REMARKS UPON THE ACCIDENTS AND LOSS OF LIFE IN CONNECTION
WITH THE WORKING OF COLLIERIES.

SIR,—In reviewing the accidents of the past year, no one can but be painfully impressed with the fact that, despite the efforts of the Government Inspectors of Mines, the philanthropist, and the few coal proprietors who have done all in their power to prevent such waste of human life as now occurs, the number of fatalities is on the increase. Even taking into consideration the increased quantity of coal gotten in the year 1860, and making all necessary and due allowances for the same, the amount of loss of life appears almost stationary; at all events, there is no sensible diminution in the percentage of lives lost. With these startling facts before us, we ought not to be surprised that the public are beginning to take up the subject with greater earnestness than hitherto, and that the question should be so often asked—Can nothing be done to prevent such awful loss of life? On a fair computation it may be assumed that for every life lost in the mine there are at the least eight others maimed, many for life; so that, upon this computation, we have had no less than 8872 individuals injured and 1109 killed during the year 1860 in the working of coal mines, without taking into consideration the great number that lose their lives and health by a slower but, nevertheless, as certain a process—that of working in vitiated air. My candid opinion is that if the victims to the latter cause could be counted, they would far exceed the number maimed from all causes. But setting aside the latter cause, and assuming that we have raised 72,000,000 tons of coal in the year referred to, we have for every million tons of coal raised 15.4 lives lost, and 123.2 maimed. With these frightful facts before us, it must be a source of deep regret to all right-thinking minds that this country's greatness cannot be maintained at a less loss of life and of injury than the figures above present, showing a yearly sacrifice equal to that which has decided the fate of nations upon a hard-fought battle field. When I speak of England's greatness, I mean that without her mines and her miners she would be unable to maintain her position as a first-rate power for one single month, and that had it not been for her mineral wealth she would have been almost unknown to the rest of the world, and as but a speck upon the globe.

The coal mines of Great Britain have doubtless done more towards contributing to the comforts of civilised life than almost all other things combined. If, then, the miners of this country have done so much towards building up and maintaining their country's greatness, is it unreasonable to ask that they shall receive in return that respect, attention, and protection which they are honestly entitled to, and that their hazardous occupation be rendered as safe, healthy, and agreeable as possible; and that they be no longer told, as a requital for their services, that all is being done for them that can be? I am far from denying that the working of collieries is attended with considerable risk, and that accidents and loss of life are inseparable from it, but with the Risca, Burradon, Rugeley, Hamilton, and Clay Cross catastrophes before us, and the case of Messrs. Lee and Co.'s Rhodes Bank Colliery, near Oldham, where everything is described as being ready for an extensive explosion occurring, the air-courses nearly made up, and the temperature little short of that of a Turkish bath, who can resist the opinion that very little has been done towards saving human life compared with what might be done? The foregoing are only a few of the cases that might be cited illustrative of the laxity of discipline that is manifested in the management of collieries in many parts of this country.

Much has been said of the ignorance that is to be found amongst the miners as a body, and some have gone so far as to assert that to this cause may be attributed much of the great loss of life that annually takes place in the working of our mines. The same parties hold out very sanguine hopes of education bringing about a change that will materially lessen the number of fatalities, by making the miner more thoughtful of risking his own safety and his employer's property; and that educating the miner will alike confer a boon upon employer, employee, and the community at large. I am far from underrating the advantages to be derived from an early education, but I cannot ignore the fact so often presented to me, and doubtless to many others in a similar position, that so soon as a miner obtains a little education his efforts are directed to either getting out of the pit altogether, or raising himself to a position of trust in the pit; but in the majority of cases his mind is bent upon obtaining employment more congenial to the tastes of man than of being deprived of the light of heaven, or being shut out from the exhilarating and cheering influence of the sun's rays. It was said by the late Mr. Cobbett, M.P., that the ignorant man makes by far the best workman, and to a great extent the truthfulness of his remarks is strictly borne out in conducting mining operations; but it is now acknowledged on all hands that man ought to live for some higher and nobler purpose than that of merely toiling, eating, and sleeping. It, therefore, becomes a question for serious consideration whether the dangers, toils, and hardships that the miner has long been subjected to at the major part of collieries cannot be lessened, so as to accord with the finer feelings of the educated body of miners that will in all probability supply the places of the present uneducated miners, providing the efforts are persevered in that have been so laudably commenced at some few collieries in an entirely voluntary manner.

There can be no two opinions as to the character of the miner being changed to some extent by what recent legislative enactments have rendered imperative, and that the educated colliers will not perform the same dangerous and unhealthy duties that they have long been accustomed to with that cheerfulness of disposition and alacrity of spirit they have long been noted for. I, therefore, contend that it is of the utmost importance and advantage to employers to do all in their power to render the occupation of a collier as safe, healthy, and agreeable as possible; and that if all reasonable measures be not taken to effect this change a scarcity of colliers must be the consequence, and further legislative interference, probably to an extent that will become mischievous, and prevent the mines being so fully worked as at present. The employers, or owners of collieries, in this country have the power to effect a change in a few years time that would not only render greater security to the miner but to the capitalist also. This change could be effected, in all probability, at a very great advantage, in a pecuniary point of view, to those by whom it is most required. The means of effecting the change would be by giving proper encouragement to colliery managers, by paying them salaries commensurate with their duties and responsibilities, and holding out necessary inducements for obtaining the best talent that can be procured. It is only a few years ago since I had the opportunity of knowing the amount of wages paid to three so-called colliery managers under one firm. They were each held responsible for the management of their respective portions of the colliery, both above and underground. The wages paid to one was 28s. weekly, and the others 25s. Such was the ignorance and incompetency of the trio, that the Government Inspector refused to meet them after he had had a first interview: he said they could only be considered as subordinates and common workmen, and that it was useless for him to talk to men who could not understand him. To the disgrace of the firm, they had then attained an unenviable notoriety for the number and frequency of preventable accidents. It is only right to say that, so far as I am aware, this is an isolated case of attempt to pay colliery managers with such miserable pittance. But there are many who pay salaries that are inadequate to obtain first-rate talent, and others that have in reality no managers at all, but trust to the chartermaster, or butty.

In districts where the charter system is employed, it will be found that the accidents are much in excess of what they are in other localities, even where the danger consequent upon working a colliery is not so great. It will be generally found that the daily output is very small, seldom exceeding 60 tons at one shaft, where the butty system is practised, and that the shafts are not deep, consequently rendering it a comparatively easy task to successfully manage a colliery so circumstanced.

It is not only explosions that require guarding against, but accidents arising from falls of roof, accidents in shafts, and those arising from miscellaneous causes; in fact, the loss of life from explosions, great as it is, does not constitute a third of the aggregate loss of life in working the coal mines of this country for the six years ending 1860. From the sudden and appalling manner with which this class of accidents has fallen upon the ears of the community at large, it has, however, caused the greatest commiseration to be expressed for the poor miner. The bare recital of the fact of the village churchyard being too small to contain the number of graves required for the interment of those who lost their lives by the Risca explosion, and that a cemetery was formed from an adjoining field, is sufficient to send a thrill of horror through everyone possessed of sympathetic feelings; yet the number of lives lost by the Lund Hill Colliery explosion far exceeded that of those lost at Risca. What renders the circumstances still more painful is that no unprejudiced mind can read the imperfect

evidence given at the coroner's inquest and resist the idea that this fearful loss of life was occasioned in each case through bad management.

In order that the reader may form his own conclusions upon the vast waste of human life consequent upon the working of the coal mines of this country, I will append a tabular statement for the last six years of the number of deaths from the various causes:—

Deaths from—	1855.	1856.	1857.	1858.	1859.	1860.
Explosions.....	145	235	377	915	95	363
Falls of roof.....	399	399	373	366	399	388
Shaft accidents.....	235	210	166	173	191	182
Miscellaneous.....	181	183	260	178	220	176
Total.....	963	1027	1122	931	905	1109

It will be seen from the above statement that for the six years in question the total loss of life has been 6057 from all causes, whilst for the same period the loss of life from explosions alone has been 1433. And from a further examination of the above figures, it will be found that the number of deaths from explosions for the last year far exceed those of any previous year, excepting in 1857, when nearly 200 lives were lost by the Lund Hill catastrophe. The accidents and loss of life arising from falls of roof and coal and the sides of workings are less for 1860 than for any previous year, excepting in 1857 and 1858; and the percentage upon the quantity of coal raised is less than in the two exceptional years. How, far these facts accord with the statements made in some of the Government Inspectors' reports for the year 1860, when advocating the desirability of setting a certain number of sprags and props for each specified area, whether required or not, and in declaring that the great loss of life arising from this cause was owing to its being left to the judgment of the manager and his subordinates where and how they were set, I will leave to the judgment and discernment of the reader. Accidents and loss of life classed under the head of shaft accidents present a more flattering aspect for 1860 than in any previous year, for whilst the quantity of coal raised has steadily increased, the loss of life from accidents of this class is less than in any of the years referred to, excepting in 1857 and 1858. One can but be impressed with the idea that much remains to be done in the prevention of shaft accidents, if we take a tour through Staffordshire, and examine the uncouth and primitive methods of raising coal and ironstone employed at many collieries in that district.

It is gratifying to know that the Government Inspectors have done much in lessening the number of fatalities from the cause under consideration, despite the fact that the depths at which coal is wrought are steadily increasing, and consequently the danger increases in the same ratio. It may be that their efforts have been attended with greater success in this respect from the machinery and winding gear presenting only slight difficulty in being examined, compared with an underground examination. The accidents and loss of life from miscellaneous causes above and underground present a still more flattering appearance for 1860 compared with previous years, the number of lives lost being less than in any previous years, with the quantity of coal gotten on the increase. This improvement is also in a great measure due to the Inspectors of Mines; and the same remarks will apply to accidents upon the surface as were made respecting the facility with which an inspection can be made at surface compared with one underground.

How few, when enjoying the comforts of a good fire, take into consideration the cost to human life that the coals have been wrought at. According to the returns for 1860, each week that rolls over in the ever ceaseless course of time adds to the list of lives lost in the working of our collieries 21½ human beings. Upon the assumption that eight persons are maimed for every life lost, we have the fearful number of 170½ killed and maimed weekly, or more than 24 daily, Sundays included. These plain, unvarnished facts speak volumes, and may reasonably be considered strong enough to reach the feelings of the most callous votary of mammon. But it would appear, from the frequency with which preventable accidents occur, and the number of cases that are brought before the public, from the owners and managers of collieries neglecting to comply with the legislative enactments, that the startling facts previously given are either passed by unnoticed, or are never presented to many of our proprietors and managers in such a form as to be understood. My candid opinion is that many of the accidents and loss of life that occur might be prevented by a proper system of managing collieries being adopted, an opinion not hastily formed, but by well considering over the circumstances that occasion the loss of life complained of; and the more I examine into the circumstances the firmer my belief that the only effectual method of bringing about the desired change is by proprietors and owners of mines encouraging and aiding the practical youth to attain a position that is inaccessible to all who have not strength of mind to almost mock the term "impossible," and, by holding out inducements, to obtain the best talent that can be procured.

In my next and concluding letter of this series I purpose entering more fully into this part of the subject. I may remark that I entertain a different opinion upon the propriety of laying bare the existing evils of our present system of colliery management than many who stand in a similar position to myself; but it is from a thorough conviction that more benefit will accrue from adopting that course than that of sailing with the stream, and endeavouring to conceal from the view of all outside the mining world the real causes of such waste of life as is now going on. If proprietors will make a very small sacrifice voluntarily at the present time for the object named it will render it unnecessary for much greater sacrifices to be compulsorily made ere long, whilst they will reap treble the advantage for the sacrifice voluntarily made, by having their mines better managed in every respect. I have no object beyond that of benefiting practical mining in making the unpleasant remarks I have felt it my duty to make in this and previous letters. I am at present a colliery manager, and in that position, in all probability, I shall continue. My highest ambition has been hitherto to raise myself to the highest position that can be attained in that capacity; it remains to be seen whether I shall accomplish that object or not. All that I can say is, that if continued application in the pursuit of knowledge that I conceive to be absolutely necessary for a colliery manager to possess will place the prize within my grasp it will, probably, be attained. I have no desire to raise myself by putting others down, nor by setting myself up as a paragon of perfection, but I cannot close my senses to the facts so often presented to me, that, on a fair computation, two-thirds of the accidents that occur are the results of bad management; and if the miner should occasionally be found reckless, the palliating circumstance of his superiors setting him no better example ought to be accepted as an apology.

Jos. GOODWIN.

COLLIERY WORKINGS—THE RISCA EXPLOSION.

SIR,—In the Journal of Aug. 24, I noticed in the Report of Monmouthshire and South Wales a paragraph relating to some disclosures of William Derrick, the principal night fireman at the Black Vein Pit, Risca, when the awful explosion happened there on Dec. 1 last. Although not published *in extenso*, there is sufficient light thrown on the subject as to explain the hitherto mysterious difference in the height of the water-gauge between myself and the Government Inspector's registrations of the drag through the mines—that he, Wm. Derrick, was ordered by the viewer to turn the wind into a short cut through No. 2 east, and up Bedlington's deep into the upcast shaft, while the Inspectors were trying the water-gauge, thereby lessening the drag by such trickery to probably less than one-half what it would be if the air were made to circulate to the face of the workings. It will be remembered that when I tried the water-gauge at the east separation doors it gave 3 in. of water, and at the machine 4 in. of water. It is much to be deplored that men holding responsible situations, where the safety of hundreds of lives are dependent on their skill in the management of works entrusted to their care, should so far forget themselves as to descend to deceive their fellow-men, and hide, as it were, the real truth from public view. It is to be hoped that the truth, and nothing but the truth, will now come out, so that scientific and practical men will have a chance to discuss the matter over as it really was, and not under false colours—in this way a remedy is easily found to prevent a repetition of such disastrous calamities to life and property. In conclusion, I would beg to propose a remedy—I would suggest that a small *gutta percha* dam, or any other airtight tubing (say ½ in. or ¾ in. bore) should be inserted through the coal or the mason work around the separation door or doors of a colliery, with its open end to the exhaust side of the doors; the other end to be taken up the *shaft drift*, or any other means to the surface of the ground, and here attach a graduated water-gauge to this end, enclosed in a good strong box, with a glass face, and at all times exposed to the view of the colliers or any one else, and that a book of its registration should be kept by a disinterested person in readiness at all times for the Inspector to examine when visiting the works. By this means all the surface men would be able to see if any derangement took place in the wind-roads, and would be able to apprise the underground officers of it at once.

Sept. 4.

Mining Engineer, Brendon Hill.

VENTILATION OF COLLIERIES.

SIR,—For some weeks past a discussion has been going on in the *Mining Journal*, relative to an invention patented by Mr. R. H. Hughes for ventilating collieries by forcing air into them instead of drawing it out by the usual method. In theory I must admit that nothing can appear more feasible, but in practice its utility has to be proved. No doubt there will be some difficulty encountered in finding a coalowner sufficiently speculative to adopt it; but I think that if Mr. Hughes can satisfactorily answer the following questions the doubts of a large number of your readers interested in the subject will be removed, and his object—that of securing the adoption of his invention—will be more readily achieved.

Mr. Hughes tells us that it is far better to force air in than to draw it out of collieries; but he does not give us any evidence in support of his opinion. Almost the sole cause of deficient ventilation is the failure to lead the air in the direction in which it is intended to be led; and I would ask Mr. Hughes whether it would not be more difficult to direct the air by means of pipes formed with innumerable joints, than by the ordinary galleries of the mine, where the only joints are the trap-doors, which, by being made double, can be rendered perfectly safe, or, at least, practically so? But, even supposing that the joints could be made tight, could they be made so by ordinary colliers? because, if we are to have a staff of blacksmiths, plumbers, and gas-fitters underground, Mr. Hughes would have to prove that the working costs will not be increased.

There is one way, however, in which I think Mr. Hughes could speedily secure the adoption of his invention, and that is by *proving* that what he infers to be a fact—that air can, with the same sized machine, be forced into a mine in larger quantities than it could be drawn out. I am half inclined to this opinion myself, as it seems very feasible that once the air forced into the pipes it must seek to escape (its escape, of course, being into the mine); but that, although the same force be applied to draw air out, we may only get rarefied air, so that a much smaller quantity would be found to enter the part for ventilating purposes. This Mr. Hughes should at once turn his attention to; and I am sure he will gain both scientific reputation and pecuniary success in securing the adoption of his invention.

G. R.

SAFETY-LAMPS.

SIR,—In reply to your correspondent, "Coal," in last week's *Journal*, as to the practice of trimming lamps by forcing a wire through the gauze instead of using the ordinary pricker, we had not heard of such a practice until we saw his letter. Such a practice is objectionable, as it destroys the mesh of the gauze, to say nothing of endangering the mine. Of course, such a practice may exist; but we think the viewers and overmen would not tolerate the evil, being too intelligent in discharge of their duties to allow themselves to be long cheated in such destructiveness; we are confident they would both reprobate and punish the men for such dereliction. In addition to our being extensive manufacturers of all sorts of lamps, we repair an immense number for the local collieries, midland district, and Wales, and on no occasion have we seen the mesh of the gauze disordered. That the introduction of glass-sided lamps, whether the Stephenson, Clanny, or Mozard, would obviate this evil, if it really exists, we think there can be but one opinion; and we are glad to see, and to say, that the glass-sided lamps are now being more generally used. We are disposed to think, with the numerous calamities of this year, that the recommendation of the coroner has had something to do with the change from the Davy to the glass-sided lamp. The Stephenson was strongly recommended after the Risca explosion, and it has now become a favourite lamp. Of this fact we can speak with confidence, as our orders for the "Geordie" have very sensibly increased. Glass-sided lamps, however, have been long extensively used in this district, and some of the collieries use no other. We point only to two collieries in illustration; as, from the circumstance of these using them so exclusively others have gradually introduced them. The famous Wearmouth Pit, one of the deepest in the world, uses the "Clanny," and there are about 2000 in use. The Killingworth, the mention of which colliery at once reminding of the original inventor of the safety-lamp, George Stephenson, uses the production of this illustrious individual, and has done so for a considerable number of years.

Park Works, Gateshead-on-Tyne, Sept. 4.

CHARLES BASS.

SAFETY-LAMPS.

SIR,—The number of improvements in safety-lamps which have been introduced to the public since the time of Davy's and Stephenson's discoveries has been very great, but in nearly every instance there has been something novel and something to admire; it has been proposed to afford increased light to the collier, or to afford him additional safety by providing that the lamp shall be extinguished before it is opened; an improved lock has been suggested, or the necessity for a lock has been removed by providing some more effective fastening. The earlier lamps were, no doubt, both clumsy and complicated, if we except the original Davy and Stephenson; but recently lamps have been invented which I really think could be substituted for those at present in use.

The Clanny and Mozard are, doubtless, the best that could be devised for illuminating power, and the Stephenson for safety and cheapness combined; but there are other lamps which are superior to these, perhaps, where a combination of great illuminating power with perfect safety is desired, regardless of slightly increased cost. For instance, there is the dioptric lamp of Mr. Wilkinson, of Long-acre, the paraffine lamp of Mr. T. Y. Hall, and several others, which I should think might be advantageously used for fixed lights in horse levels, as well as in the other main galleries in the pit. I quite agree with the remarks of your correspondent, that Mr. Hall's lamp would have the advantage that the oil to be burned could be manufactured on the spot, and I think, moreover, that it would be found that the introduction of a larger number of fixed lights underground would result both in increased safety and increased economy. I assume that there would be increased safety, because a smaller number of lamps need be placed in the hands of workmen and boys—in fact, I think that no boy need have a lamp at all—and all fixed lamps could readily be placed under the care of one competent workman. As to the economy, I believe it would arise from a greater amount being obtainable from a given number of lights at fixed intervals than from a similar number swinging about in the hand.

I am aware that moving objects cannot be seen at so great a distance with fixed lights as with lights attached to them, but I believe this difficulty might be overcome by the use of small shields to prevent the glare of the fixed lamp at any time falling upon the eye of those in the level. I have had my attention recalled to the subject from noticing that Messrs. Crawley and Schneider have patented a new Argand safety-lamp, which I should think would give a great amount of light even with the ordinary wire-gauze top, and which, with glass sides (to be used only for fixed lights), would be as powerful as any that I have seen. It would be interesting to learn the opinion of practical men upon this subject, more especially if they would at the same time state the precise objections to the several lamps that have been proposed as substitutes for, and improvements upon, the Davy and Stephenson, for I believe that the sole reason for any defect remaining unremedied is because its existence is not generally known.

HOUTLLE.

NEWCASTLE v. WELSH COALS.

SIR,—In last week's *Journal* your South Wales correspondent refers to the oft-repeated statement that "4 tons of Welsh coal are equal to 5 tons of North Country coal," but although I am ready to admit that even this gives us an immense advantage over our rivals, I am not altogether satisfied that the subject should be left there—the advantage ceded to Welsh coal is not so great as facts would justify. In the *Mining Journal* of March 6, 1858, Mr. S. B. Rogers stated the question very fairly, and from the conclusions which his letter very naturally leads to, it will be seen that there are Welsh coals which are doubly as good as North Country coal, and that half a dozen sorts might be mentioned which would show the results of burning Welsh to be 45 per cent. better than from burning North Country coal. Thus, Prof. W. R. Johnson, of the United States Navy Department, states the fixed carbon, or steam-equivalent, of Newcastle coal to be 57 per cent., whilst Mr. Rogers states the fixed carbon in Ystalyfera coal to be 95 per cent.; in Aberaman, 90 per cent.; in Powell's Aberdare, 86 per cent.; in Morris's Swansea, 76 per cent.; in Cwm Rhonda, 76 per cent.; and in Elled's Nant-y-Glo, 72½ per cent. Indeed, in a list of 18 analyses which Mr. Rogers gives I cannot find one so low as the Newcastle coal—the lowest of the Welsh (the Blondare) being 5 per cent. higher than the Newcastle.

As a second-rate steam coal, no doubt the North Country coal is marketable, and where Welsh coal cannot be obtained the North Country coal is a very good substitute, but I think after such statements as these have been extensively published it should not be attempted to prove even that 5 tons of Newcastle coal are equal to 4 tons, as it is much nearer truth to say that 2 tons of Welsh are equal to 3 tons of Newcastle. The most sa-

tisfactory way of proving the relative merits of the two kinds of coal would be to state the quantity of each which has been taken by the Government during the past five years. Of these statistics I know nothing, but have no fear of the North showing the largest figures.

Sept. 4.

RATING OF MINES.

SIR,—It was only to-day that I had an opportunity of perusing the Journal of the 24th inst. I was forcibly struck with the letter of "Coal Owner," respecting the mode of rating collieries to the poor in the way and mode which he wished to be adopted, to enable all coal proprietors and metallic miners to free themselves from paying rates—i.e., combining together and get an Act passed to exempt all mines from being rated to the poor. I have been for the last 20 years connected with collieries, and I never experienced the annoyance which your correspondent intimates. On the contrary, where assessors meet with coal proprietors who are willing to assist the assessors in giving them the necessary information as to the number of men employed as getters of coal, or the annual amount paid as royalty, so as to enable the assessor to arrive at a correct amount; when this is done with a good grace you never hear of any appeals being made to the magistrates. "Coal Owner" loses sight altogether of the fact that in the mining districts a large portion of those chargeable upon the poor rates are persons who have been crippled in mines, consequently unable to work in coal mines or elsewhere, hence the poor rates are increased. "Coal Owner" should sit for a few years at a board of guardians, as I have; no doubt he would then see and find how many widows and fatherless children supported in a measure by out-door relief from the parish; and yet, forsooth, he would free those persons from taxes who have been made rich at the expense of life and limbs of those who most need his support! My views of minerals of all descriptions are quite different to "Coal Owner's." I would levy a tax upon all metallic mines, also upon coal and Cannel, and free tea and sugar; this could be done without endangering the metallic trade in the least. Consider the poor, the rich will take care for themselves.

Liverpool, Aug. 31.

AN OLD MINER.

ACCIDENTS IN METALLIC MINES—INSURANCE.

SIR,—For some years past proposals have from time to time been made for establishing an insurance company amongst miners, but up to the present time it has not been carried out, although week after week brings fearful accidents and deaths, leaving widows and orphan children to deplore their loss, and to be thrown upon the world penniless—the general result being that they are compelled to go into a Union, frequently becoming permanent paupers. We have schools formed and other institutions for bettering the condition of miners, and it is to be hoped that the miners themselves, assisted by the agents, will once more endeavour to form an insurance company for miners. A small monthly sum amongst so many would soon be able to assist the widow and orphan, and render them independent of parochial relief. Let miners consider the old adage, that "many a mickle makes a muckle," and no doubt if once established they would be assisted by many influential men connected with mines, and patronised even by the Duke of Cornwall himself.

At Calstock, a few days since, a miner—Benjamin Mitchell—who was much respected in the district, was killed by falling away in the River Tamar Mine, and has left a wife and seven children without money or friends who can assist them. Of the children, the two eldest are cripples, and the eldest only 14 years old. Mitchell was one of the most industrious and well conducted miners I know, and worked under me for years. Should any charitable person be disposed to render any assistance to his family, I will gladly receive their subscriptions, and see that they are properly applied.

Abbey Mead, Tavistock.

THOS. NICHOLLS.

TREATING COAL FOR SOLID AND LIQUID HYDROCARBONS.

SIR,—I noticed that in last week's Journal you briefly referred to the invention of Mr. W. M. Williams, of Handsworth, for treating coal and other bituminous minerals and peat for obtaining a maximum of solid and liquid hydrocarbons, and a minimum of gaseous hydrocarbons, but I think that from the increasing use it will be interesting to know more minutely what Mr. Williams's process is. I have carefully read his specification, and his invention seems to be at once simple and likely to prove successful; and might, therefore, probably tend to the solution of the problem for the successful working of the peat bogs of Ireland.

The retort and refrigerator are much of the ordinary description, a safety-valve for the escape of any permanent gas that may be formed. As soon as the retort is charged all the openings are securely closed, except the safety-valve, and the retort is rapidly raised to, and maintained at, a red heat until volatile products cease to pass off. The retorts employed are in the shape of upright cylinders, and the products of distillation are conducted from the retorts by means of side-pipes opening into the retorts near the top. The retorts are charged with canisters made of sheet-iron, and of such a form and size that they nearly fill the interior of the retorts. The object of these canisters is to make the process of distillation almost continuous—all that is necessary being to draw out the canister of refuse, and replace it by a fresh one ready charged.

T. C. B.

PIT SINKING IN BELGIUM BY KIND'S PROCESS.

SIR,—This process having been tried for some time, both in France and Belgium, without success, it was determined, after a long discussion, that the failure was caused by the use of wood tubing; it was, therefore, resolved, in spite of the practical difficulties presented to the use of iron tubing, to adopt that means of stopping back the water, &c., and by adapting a box sump to the lower end of the apparatus, which permitted the more compact arrangement of the concreting, and enabled them to maintain the tubing perfectly dry. By these means Kind's process may be applied with almost certainty of success. Thus far, as may also be learnt from the details, it presents both simplicity and rapidity of execution, which, with its great economy, will, without doubt, in almost every case where it is a question of sinking through lands containing springs or water levels, be almost universally adopted. A large extent of lands comprised in the perimeter of our coal basins are yet unexplored, on account of the difficulty of pit sinking, and it is precisely under the conditions in which these untouched riches lie that Kind's process will be called on to lend its aid. The southern part of our coal concessions, called the centre, are in this state: powerful springs or water levels, lands difficult to sink through, some, for example, presenting a great resistance to the attack of ordinary tools; whilst others, such as quicksands, can only be sunk through at full spring; such are the elements against which we have to contend to reach the coal beds. The Coal Company of Péronnes, which was the first in Belgium to undertake the trial of Kind's process, possesses a concession of 1000 hectares (2500 acres), covered throughout its entire length by aqueous lands. In 1828 this society was induced to establish a colliery at an enormous expense (pit No. 1, called Richebé), at a little distance from the canal of Bray, at Nivelles, but, after several unfruitful attempts, was obliged to abandon the works on account of the quicksands, which it was found impossible to get through. In 1853 the proprietors of Péronnes, on our explaining to them Kind's process, did not hesitate to make a new attempt to explore the northern part of their property. At the place where the new pit was sunk, called No. 3, in the commune of St. Vaast, the thickness of dead land was 195 metres (say) about 216 English yards, containing innumerable springs of water, if one may judge by the Falaucé Pit, established in the neighbourhood. The diameter of pit No. 3 was 4.25 metres, about 14 ft. 6 in. English, to a depth of 98 metres or 109 yards, and lined with a tubing of cast-iron of 3.65 metres, about 12 feet English, internal diameter.

This work, which has been terminated since the month of Aug., 1856, has completely succeeded in holding back the upper springs of water; there remain, however, 97 metres, about 108 yards, to bore to reach the coal measures, the sinking of which has been deferred from financial motives, but without doubt the work will be shortly recommenced. A second pit has been sunk by the same process and the same company near an old colliery, called Sainte Marie, No. 2. In this case it was required to sink an air-shaft through the watery beds of marl which cover the coal fields to the thickness of 107 metres, about 119 yards. This last work has perfectly succeeded; the cast-iron tubing with which the pit is lined is perfectly dry at all its joints, and even at its base, and no further doubt now exists of being able to sink through springs and quicksands by this process. The construction of pits in aqueous lands comprises two series of operations very distinct—1. The boring of the pit—2. The arranging of an impermeable lining; that is to say, tubing. The sinking of pits by the above-named process is nearly analogous to that employed for sinking Artesian wells. It is simply the sinking of a pit of large diameter, with very powerful machines, and tools of extraordinary dimensions. The beautiful portion of the invention consists in the form and composition of the tools, and it is only by the talent displayed in sinking the first works that the pit sinkers were imbued with a *hardiesse* and *sang froid* by which they have since been distinguished. The boring of the pits is made with the assistance of an instrument called "trepan," which acts by percussion, and is worked by a steam-engine. The rocks to be bored through are broken and reduced to a thick pulp, extracted by means of a spoon, or cylinder, which is forced down to the bottom, and withdrawn more or less filled with

the debris of the rock. This operation of sinking pits by boring, although exceedingly elementary, necessitates however a long practice in handling the tools, and great experience in their adjustment, for every moment one is exposed to accidents, which may result from incautious handling, sudden shocks, or incalculable resistance inherent in the operation of the apparatus. In a future paper I will give a description of the tools, apparatus, safety instruments, and peculiarity of the building used in and for this interesting process.

II.

TREATMENT OF POOR COPPER ORES.

SIR,—In the Journal of Aug. 24 I observed two paragraphs on this important subject—one, the allusion to a new process, patented by Mr. Rodda, wherein a comparison was attempted between that gentleman's invention and mine. I have before me the specification of a patent granted to Mr. Richard Rodda, but this is evidently not the one meant. I find by a letter in an Australian paper that Mr. R. V. Rodda is a son of that gentleman, and his specification is not yet published. Until that document is published no one can gainsay the statements of Mr. Rodda or his agents. I can only wish him success; the field is very extensive, and in South Australia alone there is room for all.

The other paragraphs referred to are contained in the statements of the worthy Chairman to the shareholders of the English and Australian Copper Company at their recent meeting. Mr. Routh is represented to have said that my process only contemplated reducing ores of as low a percentage as 17, and that I could not even do that without infringing Napier's patent, at all events from carbonate ores. Mr. Routh is not ignorant, because some correspondence has passed between us on this very point, that I have shown in the columns of your valuable Journal that ores of 1½ per cent. can be raised and reduced by my process at a very large profit. In the Journal of Oct. 13, 1860, I gave full particulars of our results upon upwards of 24,000 tons of ore, since then the quantity has been increased to near 40,000 tons, with even more favourable results. To that statement I would refer Mr. Routh and his shareholders for the truth of the matter. The directors of the Burra Burra Mines forwarded to me several parcels of their poor ores, and one parcel of their usual raisings (all of which were too poor for the English and Australian Company to work); they appointed practical and scientific men to superintend and watch over the treatment of these ores by my processes at Alderley Edge. In consequence of the very favourable nature of the report of these three gentlemen thus appointed by them, they have applied to me for a license, and are about to establish works upon my system at their mines.

The English and Australian Company cannot smelt anything under 15 to 17 per cent. at the Burra Mines. Now, I am not anxious to interfere with their operations; all I propose at present to do is to take all below their limit, whatever it may be, and go down as low as 2½ per cent. I do not smelt, my only object is concentration. I have no smelting furnaces whatever, and can entirely dispense with coal. Napier's process is a smelting process, and in no way resembles mine. My objects are to assist the miners and the smelters; I assist the former by enabling them to concentrate their ores on the mine, so that they send twice or three times as much copper to market as they formerly did, in a highly concentrated state. All this extra metal will pass through the hands of the refiner, as it is no part of my process to make fine copper. Both at home and abroad I wish to apply my processes to those ores that the usual smelting operations cannot touch; therefore all the copper made by my processes will be an absolute addition to the wealth of the nation, and will be of immense assistance to the mining interest. I hope soon to be in a position to present your readers with the results of extensive operations on very poor Cornish and other ores.—Alderley Edge, Sept. 3.

WM. HENDERSON.

AURIFEROUS IRON AND STEEL.

SIR,—In the Mining Journal of Aug. 17 I find a gratuitous notice of my patented process for improving the quality of iron and steel, and in the Journal of the 24th a letter from Mr. Webb, of Tipton, in which he questions the correctness of the principles involved in my process. If that gentleman had taken the trouble to investigate the subject, and especially some of the laws that govern matter, and the combination of matter, it is highly probable his letter would not have appeared in print. The quantity of gold I recommend for general purposes is 1 part in 140,000, but the proportions may be varied. The subject of the divisibility and diffusibility of matter has obtained much investigation from the scientific, and it is a subject full of interest, and of the highest importance, in a practical point of view. Mr. Webb's illustration of the drop of oil in the hoghead of distilled water is rather unfortunately selected for his argument. I do not propose to combine such matters as have little or no affinity, but such as have an intense affinity for each other. If Mr. Webb will take the trouble to mix a drop of sulphuric acid in his hoghead of distilled water, he will, in all probability, discover that every portion of the water has its fair share of the drop of acid; so it is with the drop of gold in the ton of iron. Gold in minute quantities has the property of diffusing itself in iron in a manner perfectly surprising, when these metals are in a liquid state.

Very beautiful illustrations exist of the diffusibility of matter in odouriferous substances. For instance, a grain of musk placed in a room will impregnate the entire atmosphere of the room with its scent, without any apparent diminution of its bulk. Another instance I will mention of a metallurgical kind—take a pile of lead ore finely ground and well dressed, and containing ½ oz. of gold to the ton, take a sample from various parts of the pile, and assay the samples so taken, and the chances are that very uniform results will be obtained, if the operation has been carefully conducted. We here see Nature carrying out the operation of mixing gold in minute quantities in lead ores. In proposing to mix gold with iron in like proportion, I am only following out the palpable laws of Nature, as exhibited in the instance I have mentioned. In reply to Mr. Webb's question, so pointedly put—"I would ask Mr. Longmaid whether he is prepared to state, as a chemist and metallurgist, that such an alloy can be artificially produced?"—I am prepared to state that I can produce alloys of gold and iron or steel with the same uniformity as is common in the manufacture of iron and steel. Everyone acquainted with this most important manufacture is well aware that absolute uniformity does not exist, various circumstances interfere with perfect uniformity of results. My process is capable of producing the alloy of gold and iron, when proper attention is paid to the manipulation, of as uniform quality as is obtained in the ordinary manufacture of iron. I possess the means of determining whether there be gold in the iron or not with great facility. At the present moment there does not exist any iron or steel that contains gold except that made by my process, that I am aware of.

The most elaborate and careful analyses of all the iron ores of Great Britain have been conducted by gentlemen of the highest character as skillful manipulators; but I am not aware that in any one instance iron ores suitable for the manufacture of iron and steel have contained a particle of gold. There are sulphurets of iron that contain gold, but this description of ore is not used in smelting iron. Iron produced by my process is greatly improved in quality, and increased in specific gravity—in fact, I have produced iron of greater density than any I have ever seen recorded in the chemical literature of this country; this circumstance can arise from no other cause than the presence of the gold artificially introduced. I would further remark that my experiments have been made on a wholesale scale, without any alteration of the plant or mode of working, beyond putting the gold into the furnace.—London, Sept. 4.

W. LONGMAID.

THE IRON FIELDS OF KENT AND SUSSEX.

SIR,—There are many propositions which in theory appear to be all that could be desired, but which practical men can at once see to be almost unworthy of a moment's consideration. For some months past attention has been directed to the proposal to rework the iron deposits of Kent and Sussex, but I think there are many circumstances which would militate against the success of such an undertaking, and the question is whether the advantages or the disadvantages are the greater. Great stress is laid upon the cheap rate at which the ore could be transported to the northern coal field, owing to the coal ships bringing coal to the London market being glad to take the ore at a nominal rate as a return cargo; but I do not think this is the principal question at issue, we should be informed the precise character of the ore, and the price at which a thousand tons could be placed at the smelting-works. If this price be lower than that paid for North Country ore at the same place success is no doubt possible.

In estimating the probability of profits being gained the question should be asked—How does it happen that with the enormous deposits of the Cleveland and surrounding districts, although so near the coal fields to which it is proposed to carry the Kent and Sussex ore, this latter ore can be made to compete with Cleveland? The cost of carrying coal from the northern field to London is 8s. or 9s. per ton, and supposing, taking the fact of a return cargo being required, the Kent and Sussex ore were car-

ried at 2s. per ton, it would be useless to take it, for this two shillings, or even a single shilling, added to the cost of ironstone, would give the northern ironmasters the choice of all the best ores of the northern and midland counties. They could have an ample supply of the best ore of similar percentage in the kingdom, and at lower prices than it is even proposed to supply the southern counties ore.

But with regard to the profits of working these southern ores, I think they would be realised only by the Kentish railway companies. In the calculations of the cost of the ore, the circumstance that in many instances the ore would have to be carried as far upon the Kentish railways before it could be shipped at all as iron ore is usually carried to the smelting-works, so that if only 1s. per ton were paid for freight it would be so much against the southern ore. The entire project looks very like an attempt on the part of those connected with Kentish lines to create a mineral traffic at the expense of the public.

A NORTHERN IRONMASTER.

ON THE ORIGIN OF QUARTZ VEINS.

SIR,—It is not very cautious on the part of your correspondent, "A. B.," to take it for granted that "the plutonic origin of quartz dykes cannot be disputed," for taking for granted any such thing, thus banishing all such searching enquiry as alone could elicit the truth, would tend to put a stop to all true progress in science. Most of your thinking readers may possibly feel inclined to be of opinion that your correspondent, "A. B.," chances of success in his attempt to revive a long-cherished hypothesis would have been all the more favourable if he could have stated that he possessed some knowledge of the chemical composition of the substances which he made the object of his enquiry and research; and he ought certainly to have added some information as to the whereabouts of the water before it "returned" and acted "its chemical part."

The chemical composition of minerals, and of the combination of such which occur in the shape of masses of rocks, and the paragenetic mutual relationship of such minerals, &c., have some time since been, and are still zealously being, made the object of anxious and careful researches; the results no doubt will be highly conducive to the advancement of true practically useful science, and by due attention being paid to chemical and physical laws, and by mathematical proportions not being lost sight of, we may fairly presume that our real reliable insight into the nature, &c., of rocks will, perhaps slowly but surely, become clearer and more extensive, the doctrines being fortified step by step, as it were, by a most searching and doubting enquiry, such as takes nothing for granted that is not proved clearly, and we may ultimately even venture to attempt obtaining a glimpse at the origin of rocks, when, it is to be hoped, it will become with all a matter of clear conviction what with most now is a matter of blind faith in one or another favourite hypothesis.—Sept. 3.

G. J. G.

VOLCANIC ACTION.

SIR,—It would appear desirable that a clear logical definition be given of what is meant by "Volcanic Action" by those of your correspondents who write under that heading. *Ætna*, *Vesuvius*, &c., are well-known "volcanoes," but then the well-known fall of rocks at Goldau, in Switzerland, was also accompanied by "volcanic" phenomena. The intense frictional heat caused by the sliding down of an immense mass of "Nagelfluhe" rock changed all moisture into steam, and mud into dust, &c.; the former probably assisting in bursting the masses (stratum of rock was about 100 ft. in thickness); clouds of smoke (dust), combined with immense boulders, were hurled high up into the air, accompanied by flames of fire, &c. In a similar catastrophe which occurred near Servoz, Chamonix (Mount Blanc), in 1751, the movements and shiftings of and within the mass of rock were repeated for several weeks, accompanied by a noise far louder than thunder or heavy artillery, while immense clouds of smoke did rise, accompanied during daytime by a red fiery shine, and by bright flames at night. Twenty-five miles around the clouds did spread, throwing the ground with "ashes." The *savon*, Vitaliano Donati, was sent by the Academy to report upon the "new volcano;" he described the ashes to be the mere dust of crushed up rocks, clouds of which dust rose up again and again at every repeated shifting of the fallen mass. The strata then shifted had a very slight dip, and were calculated to amount to 250,000,000 cubical feet.—Sept. 3.

G. J. G.

VOLCANIC ACTION.

SIR,—I am delighted to see the controversy respecting the theory or volcanic action, igneous rocks, sedimentary deposits, formation of quartz and mineral veins, &c., progressing. The Mining Journal is the only medium the miner has to see such subjects discussed. Lengthened reports and learned discussions in huge volumes are out of the power of many to procure, even supposing they had time to read the learned theories; and in lectures, excepting they are published, few are able to detect the errors advanced. I fully expected the subject would have been taken up by some of the professors who are constantly lecturing on these theoreticals; and that Mr. Hopkins would have been called to account for stating that the "igneous theory was nearly exploded." Is it that they have any doubts, or will the theory not bear discussion? Or is it that they have a little practical truth to bear them out in such suppositions? It cannot be that they are too learned to instruct the ignorant, or that they have issued their *fat*, and no one is to dispute their learned statements? For my part, I think we are greatly indebted to Mr. Lisak for his good array of practical talent, brought forward from the Corn mining districts, and elsewhere in Ireland, to refute theories, and to show the erroneous description of the stratification as laid down in the geological maps. I can also bear testimony how useless, in a practical way, the geological maps of North Wales are, as far as the description of the formations goes. There is no appearance of volcanic action in North Wales. The sections of the rocks, even on the surface, in many instances are quite incorrect; and those underground ridiculous. There is no displacement of the rocks or formations but at the walls of the veins; and as to faults, there is no meaning in such a term as applied to the granites, whins, limestones, sandstones, green rocks, &c. The displacement of rock at some of the veins is as much as 40 yards; and at the Great Ormes Head Copper Mines the throw in one is 22 yards, in the other 12 yards, in the beds of the limestone; and at Llanwrst, many are from 3 ft. to 15 ft., and some 20 yards, which at once accounts for the displacement of the formations. Mineral veins and courses cut through and displace the rocks in all parts of the world—they are not lost in any formation. Granite is no exception, as some suppose; they are either too deep to follow, or they are thrown up or down by the cross veins, or on the slip or flat in their own form, owing to the stratum being so soft, and appear out of their bearing; but those who know their appearances can follow them often as much as 30 fathoms out of their course, and often more than that in depth. All rocks, from the granite to the millstone grit, have their shales, often at surface, but certain in the middle and at the base, and are cut through by the veins and tilted up on edge, or thrown into the various and innumerable shapes we find them. There is no truth in the theory of veins being cracks or breaks in the rocks, or formations of the earth. A mere crack, or break, or rent in the stratum from desiccation, or any other cause, will not explain how the throw of veins, from 1 ft. to 60 yards, occurs; neither will it explain how a vein runs 10, 20, and 30 yards on the beds of some strata, and then take the rock again, and go down wider and better than ever; neither will it tell how some large courses, even to surface, in numerous strings of lead, zinc, and quartz, and those in Australia in gold; and still the vein keeps its course, displacing the rocks, throwing one side or cheek up to the south or west, and the other down on the north and east. It is mere theoretical rubbish to say those sections of stratum with molten granite run up through trap rocks. I never saw it anywhere but on paper; and no professor of geology, or any one else that I ever met with in twenty-six years' experience, could either show a place where it was so, or prove it to be a fact. That the mineral veins are as I have endeavoured to explain their courses, is indisputable; but more of this at another time.

I hope Mr. Hopkins will accept the invitation of Mr. Barnes to see the volcanic iron ore at Whitby, and that he will give us an account of the volcanic process; for it certainly is very interesting to read Mr. Barnes's letter in the Journal, and to see how a man like him can adopt such a theory, when a much more simple account of the appearances in the iron ore can readily be given.

Great Salked, Penrith, Sept. 3.

G. ATTWOOD.

THE GEOLOGICAL FORMATION OF THE EARTH—No. II.

SIR,—Every substance known to man is to be found in rocks (many of them inflammable); then, I ask, how were they not consumed during the reign of fire? The plutonic worshippers may say they have grown since; if so, they are ever growing; and never was there sufficient heat in the earth's crust to melt any portion of them. Sulphur if subjected to heat would burn of itself and evaporate. I have known many men (after reading theoretical works) go into a mine where chance has thrown in their way a cinder-like stone, and they at once catch the infection propounded by the theorist, and pronounce it a volcanic formation, and established as a law that these stones passed through the fiery ordeal. They might with as much propriety affirm that the ironstone commonly known as the kidney ironstone had been melted by the ancient Goths and Romans; or the potato-stone, having its internal cavity studded with quartz of an hexagonal form, had been melted.

Our professional geologists, or the majority of them, assert that native silver and copper have been produced by excessive heat; practical men, on the contrary, know it to have been formed under a cold process. If our mountains are caused by excessive heat, are not the Welsh mountains likewise? Such being the case, what prevented the coals contained in them being consumed? Hundreds of these mountains are formed in nearly horizontal layers, the peak or top frequently of the gneiss, granitic, and hornblende tribes. A practical man can distinguish the difference in mountains and describe their chief component parts at a distance, nearly as far as the eye can reach; and I here reiterate my former statement, that our mountains show no indication that anything of a volcanic nature ever took place in or about them. It is crystalline or sedimentary rocks in which lodes or veins grow, and about which the ores accumulate. I admit there are volcanic mountains; but what produced them? Is it not the spontaneous ignition of sulphurous and bituminous substances, burning the ore, lodes, or veins of their kind? This combustible substance does not extend to a great depth in the earth, and the lines, the same as lodes. I am a little at leisure just now, and shall be glad to acquaint any man to whom he will show me good mineral lodes formed in eruptive volcanic lava. Such cannot be found; the man is not yet born who ever saw them. Volcanoes do not form lodes; on the contrary, they destroy them; neither do they form layers of rock to correspond with the known old formations of the earth. Let the geo-

logist examine the formation underneath the lava; it will be found the original rock, with distinct veins in it.

A great deal has been said and written on the increase of temperature as we descend into the earth, as proved by Mr. Fox's father, and he travelled in mines and been concerned in their excavations to an extent equal to most living men, and never observed this increase of temperature in depth. We are told granite is the primitive rock; I have always found well-ventilated granite mines cold, and the water also. I know miners avoid sitting on rocks, even in hot mines, rocks being cold and injurious. Chemical action is the cause of heat in mines, and can be traced to large combinations of sulphur and other substances acting on each other; at least, this is my experience. All mines are not the same in temperature at equal depths; many mines are proved to become colder as they deepen. All practical men are aware that the deeper the mine the worse the ventilation, friction and other impediments preventing the circulating medium from being kept up. I should like to know where a mine can be found in Cornwall to fairly test such an intricate question? I object to its being taken near a lode, where gases are forming at, perhaps, only a few fathoms distance. I ask what description of gas was that given out by the lodes where such experiments have been tried; was it that when combining with the oxygen of the air would generate heat? It is not unlikely the lodes in every mine where these experiments were tried were evolving different gases at the time, each heating more or less on coming in contact with atmospheric air; and probably this heat was increased by gases generated from substances in the mine other than lodes; and I contend there was nothing proved by these experiments, neither is there anything known to warrant the conclusion of internal fire or kind of temperature. Any chance of success with these experiments would have been in a long deep adit or crosscut, in which there were no lodes; I never yet found heat to proceed from such adit unless there was a lode tapped, or near, whilst adits free from lodes of any kind invariably produce that dead, cold, unexplosive gas so often fatal to man. This gas does not accumulate near hot lodes, which is, I think, sufficiently convincing to upset the theory of increased temperature in depth. Hot lodes become cold when the ore is worked out, which further supports me in my argument.

As the settlement of such questions is beyond the reach of man, such discussions are of little importance. We may speculate on such theories, but our opinions are of little worth. The works of Nature have been wisely arranged, and all creation well supplied with every requisite. I would advise professionals having time to write and speculate on useless theories to consult with Practicals, and put their shoulder to the wheel; try to develop some of Nature's laws, and the formation of such metallic substances as come within the reach of man. A very important question is the formation of ores; are they now as when the first rock was formed, or are they continually undergoing a change? Are the ores that have been raised, used, and wasted returned again to the earth, to re-form in lodes, and become again subservient to man? If not, ores will ultimately be used up, and the children of the latter days will be deprived of their benefits. Arguments such as these are of importance, and may be discussed with much advantage, whilst, as I said before, the composition of the interior of the earth is of little consequence. If professionals would study the components of rocks, and show why and how ores are found to accumulate about one class of rocks in preference to others; how they are fed; if they receive nutrition from the rock with which they are found, as trees do from the soil in which they are planted, or is their nutrition drawn from such rocks from affinity in a liquid or gaseous state, or by magnetic action, and settle down in a metallic form—that is, supposing the ores were not first formed where they are now found. Hundreds of useful questions could be discussed in this way, and afford excellent employment for this class of men. I now propose a few questions for information:—1. What does the geologist mean when pointing out certain rocks as not stratified? I understand them to mean they have no floors or divisional planes, either horizontal or inclining at an angle with the horizon; and, if I am right, I say I never yet saw a rock without divisional planes, cross-heads, or cleavage. I will first take granite as it stands, on any hill its plane is easily traced, as well as in quarries; even in a level driven through a granite hill it will be found in alternate layers, some very hard, others so soft as to be termed pot-granite, and baffles the miners' skill to get through. Every granite post either knows it has its grain or cleavage way, and I maintain this to be stratified; the only difference I can discover is the rock is coarse, and the beds are thicker than the fine-grained rocks; in fact, all the quartz rocks have large beds. Every long adit in Cornwall shows these changes. I will next notice gneiss. It has its beds *versus* to the circular pillar. The granite or hornblende has its beds, cross-heads, and cleavage. The mountain limestone is the same, only in larger masses. All these formations are governed by the same law, either crystallization or sedimentary. Lime rock appears to have its share of lodes, and a greater affinity for many of the ores than any other known rock.

NICHOLAS ENKOR.

ON BORING ENGINES, AS A MEANS OF SINKING SHAFTS.

SIR,—Observing the remarks of Mr. Crease on sinking Cornish mines by machinery, I beg to express my opinion that for sinking shafts I consider machinery quite applicable. Boring levels I will pass for the present; as if it is successful with shafts, levels are certain to follow. Such application of machinery was suggested by Mr. Abbott and myself many years ago. It was afterwards remarked on by some other party, whose arguments I supported by a letter in the Journal. I have since had an opportunity of seeing in Somerset a machine-bored level, 5 ft. diameter, in kilias rock, which I am prepared to show to any practical Cornish engineer. The boring was performed at about 6 in. per hour. The machine was defective; the cylinder being only 2 ft. long, difficulty was experienced in keeping it ahead as fast as the excavation was made, and, as a natural consequence, the cylinder end got knocked out. I do not now propose detailing all its defects, but am perfectly satisfied I could have constructed an engine capable of boring a level of any required diameter, therefore in boring shafts by such means I have not the least doubt. The engine required should be simply that of the Cornish long-cylinder winding construction, with a main rod in the centre of the shaft, kept up to a proper speed, both in the lift and turning of the head, by gearing or otherwise, and provided with the means of boring 12 ft., at least, for every shift. It should carry a cast-iron head, free to turn on the rod, the ring and arms of which should be fitted with cast-steel cutters, changeable at pleasure, or when required for removal. It has already been asked how the excavated debris is to be removed? Surely there is room enough in a 12-ft. shaft; allowing the main rods and guides to occupy a space of 3 ft. in the centre, there would then be spaces on each side forming segments of circles, each containing an area of about 40 ft., or equal to shafts of 6 ft. square. One of these could be used for the skips or kibbles drawing off the material excavated; in the other could be placed the cutting pump, with the necessary appendages. The bottom of the shaft should be constructed of wrought-iron, as light as possible, with light working-barrel and doopole in the same. The windrose a gutta percha pipe, keeping the water down to where the cutting-head would be at work; and when the heads required clearing from underneath the cutting-head it could be stopped, the pipe passed to the bottom for forcing the water, and the heads hauled off by a winch kibble. I am aware the question will be put,—What is to be done if a hard lode, capel, or ironstone came in on one side? This would certainly be a formidable obstacle. My answer is, the machine should be so constructed that the boring-head could be raised 12 ft., or upwards in about twenty minutes, and men put in to blast out the hard side, so as again to make a fair level to the head, which process could be repeated as often as such obstacles presented themselves. There is no question but such a process is quite applicable; the material thing for consideration is a properly-constructed engine, free from complication, with as few movements as possible. It is also worthy of consideration whether the turning apparatus should not be placed at every 10 ft. level, as the work progresses. Having other business in hand, I will let this suffice for the present, merely suggesting the propriety of our Cornish engineers turning their attention to such an interesting subject (depression in business just now leaving many of them leisure for study); many of whom are aware that I am seldom behind in engineering tactics. I shall be happy to lend them a helping hand, or criticize their drawings before such mechanism would be constructed.—Sept. 4.

NICHOLAS ENKOR.

APPLICATION OF MACHINERY TO MINING.

SIR,—By the remarks of "A Miner," in last week's Journal, I am puzzled to tell whether he writes most in hope of getting information or of showing his wit. I see he is rather satirical on me; but I would ask how is it he has arrived at the conclusion that I am not as much and as good a miner as himself? And if I am a miner, I ask you am I not adhering to my own line of business in writing you on the subject; indeed, I am particularly so, as a shareholder in Great Wheel Alfred. Now, I much doubt "A Miner" being an underground miner; and suggest that his "boring, blasting, damming, and sinking" is of a different kind to the which does a miner's good. I do not doubt he would like to know how to construct a machine to sink a shaft; one thing I will tell him, it is easier to put a machine down 260 fms. than it is to get it up again. I am aware that men who have worked all their lives underground ought to have some opinion on the application of machinery to supersede their work; and I am also aware that some thirty years since, when the outcrop against threshing-machines took place, and farmers went to bed not knowing whether their farm buildings would be a heap of ruins or not, so prejudiced were the workmen of that day against machinery being employed to do their work. Mr. Thomas Smith's letter might have been reasonable before the starting of this mine; but now that the mine is drained, and engines on the spot, the question is,—Is it not better to complete the machinery, and try the outlay of a few thousands more? Mr. Smith is in error, I think, as to Capt. Bugholes' opinion of the eastern ground; also, I am not aware that Mr. Hosking is a spirited miner, and carried on and bought shares in Great Wheel Fortune when others were tired of it, and it was condemned, which mine, I need not tell you, I presume is some miles from his mills.

Mr. Ennor tells us "he highly esteems anonymous correspondents." He is not aware that I gave you permission to publish my name or not, as you thought proper. Mr. Ennor says,—"It is folly to commence with a shaft 12 ft. or 14 ft. square in an untried mine." That some of the shafts in Dolcoath should be cut down, but that the adventures will not forego their dividends." This, in other words, amounts to this,—That neither a poor mine nor a good mine is to have the benefit of a good shaft. This reminds me of a saying when I was a boy,—"He who asks shall have; he who does not doesn't want." I doubt not that in some of the mines in the North there is to be found much that is wrong. Mr. Ennor claims for Cornishmen the improvement of their pumping-engines; but he forgets that it was forced on them by the high price of coals. Now, I am convinced that if they do not turn their attention more to their drawing, &c., in a few years hence Cornwall will go down as a mining field. Mr. Ennor agrees with me as to the value of a machine for raising and lowering men; also the wisdom of large shafts, and high and wide levels. Mr. Hollow agrees with me as to the importance of a good shaft in the western part of the mine; whilst the agents of this mine, Capt. Trelease, and Capt. Grose, all concur in the chance of a good discovery in the eastern part of the mine. Mr. Crease offers to put down a shaft for a stated sum in a given time; let him do it, and say,—"No cure, no pay." I observe a remark is made, that in Great Work Mr. Crease would alter his opinion, if he saw the mine, with respect to the work possible to be done by his machine; in which mine they cannot drive more than 3 fms. per month. Now, I would ask the agents how long would the same number of boys of eight years of age, directed by men of experience, take to do the same? I probably should be told that it would take years. If I were to ask, why is this difference? I should be told that men are stronger than boys. Now, the same difference exists between men and machinery, with the advantage that the latter never tires, and works night and day. Levant mine would have gone down years ago since had they not set and improved their means of drawing the stuff. Botallack Mine is following the example, although in a different way. With respect to the prejudices of the Cornish miners years since, Mr. Jenner offered to erect his buddle on the principle of "no cure, no pay." I pointed the same out at the time to several agents of mines I was connected with, but they would not listen to me. Now, I believe, it is creeping in, and that Wheel Margaret and Levant have adopted the same. I have read with interest your remarks on the application of excavating machinery to mining.

Penceance, Sept. 2.

A LOCAL SHAREHOLDER.

DISCOVERY OF GOLD IN THE VALLEY OF THE SASKATCHEWAN.

SIR,—I have just received a letter from the Red River colony, in British North America, announcing the discovery of a valuable gold field by a party of American miners from California, on the north branch of the Saskatchewan. This intelligence I see confirmed in recent papers published at St. Paul's, Minnesota, and it can, therefore, be relied on as accurate. As the country watered by the Saskatchewan is drained by streams which have a common origin in the same mountain range with the auriferous rivers of British Columbia, the two river systems approaching at their source and in parts actually interlocking, there is nothing in the alleged discoveries which can be considered at all improbable, but, on the contrary, many circumstances which combine to favour it. My informant at the Red River colony anticipates, not unnaturally, a general "rush" of Americans from Minnesota and the neighbouring states, should "the Saskatchewan gold fields" justify the description which has been given of them in the settlement. In the present critical state of our relations with the Northern Republic the subject will demand the immediate attention of our Government.

From the London American.

North of Minnesota, under the dominion of the British Crown, is a vast fertile region, which, until within the past few years, has been under the supervision of the Hudson's Bay Fur Company. Except to a few bold pioneers or trappers in the employ of that company, the immense basins of the Saskatchewan and Red Rivers have been comparatively unexplored. Latterly the Canadian Government, impressed with the conviction that this portion of British North America was one of great importance, has fitted out several exploring parties to visit the country and report upon its resources. The most extensive of these parties was led by Prof. Hind, of the University College, Toronto. On his return he read several valuable papers descriptive of his observations before the Canadian Institute, and afterwards collected these papers in a volume, which was published by the Canadian Government. In this report Prof. Hind informs us that in the valleys of the two rivers, the Red and the Saskatchewan, there are tracts of fertile land, mostly prairie, nearly as large as all Europe. The climate is not different from that of the greater portion of Canada. But what we wish particularly to call the attention of our readers to at the present time is the fact that gold has recently been discovered on the north fork of the Saskatchewan, and along its tributaries for 500 or 600 miles east of the Rocky Mountains. Two gentlemen, who have had a great deal of experience in California, arrived, not long since, in St. Paul, Minnesota, with between \$1000 and \$2000 worth of the precious metal, taken from the mines in that region. These gentlemen state that gold is found there in sufficient quantities to pay for the labour of gathering. If this be the case it will soon be confirmed, and will offer another inducement to the enterprising and industrious, who wish to leave the crowded cities of Europe for a home on the western hemisphere.

LLANHARRY COAL AND IRON MINES.

SIR,—I have known the Llanharry Mines for years, and was much pleased with your announcement in last week's Journal to the effect of a company being formed to work them, and beg to say that, in addition to the fine deposit of hematite iron ore, there is all the south outcrop, clay ironstones, fire-clay, and limestone, with eight seams of very fine coal. I was applied to some time since, by a party who wanted the property, to state what I considered the cost of making a ton of iron would be if works were erected on the property, when I gave the following figures, and I am confident it will be done very soon by some party, as it is impossible for such a property to remain idle.

To make a ton of iron at Llanharry Coal and Iron Mines will take—Coal, 2 tons 10 cwt. (at cost price, including over cost, &c.), 10s.; iron ore, 2 tons 10 cwt. (at cost price, &c.), 12s. 6d.; limestone, 10 cwt. (2s.), 1s.; labour, &c., 5s. 6d.; office charges, &c., 6d.; 17. 14s. I have given more coal than will be required, and considerably more iron ore, in order that I consider that a large quantity of inferior mine will be used by having smelting-works on the property, which would not do to ship to other more distant ports. The South Ferwen fire-clay can be cut and put into trans underground at 11d. per ton; this coal is 11 ft. thick, and gives a fine ash.

If the owner of the lease had taken offers he received years ago the property would have been well worked; himself better off, the district in a flourishing state, and the company one of the best paying on the Mining Journal List. It is said that the person who granted him the lease squeezed some thousands out of him, and that with other bad matters and things, porters, &c., elsewhere, have caused the delay.

I conclude by saying I hope this is not a false alarm, and that we shall soon see the mines at work, and the company prosper, as I believe it must.

Llanharry, Glamorganshire, Sept. 5.

FLINTSHIRE MINING.

SIR,—THE TALARGOCH being the first mine of which I proposed, in a former letter, giving subsequently a short description; and as my best endeavours will be directed chiefly in pointing out to capitalists the confined line of demarcation between the geological strata conducive to its mineral productiveness, and that in which the sound practical miner can behold only with sorrow or distrust the great amount of capital continually being swallowed up, without the remotest chance of success, I shall, I think, but little difficulty in explaining satisfactorily this old, celebrated father of mines as the nucleus of the northern extremity of the district, from which I may continue to pursue my path southward. I shall content myself, therefore, with making only a few general remarks, more particularly as there are no operations of which I am aware too far to the west, in the immediate locality, to require a word of caution. These celebrated mines are situated about one-third of a mile from the Prestatyn Station (near Rhy, on the Chester and Holyhead Railway), and it is stated on reliable information that they have been in profitable operation for the last two centuries. A careful surface inspection of the vast piles and hillocks excavated from the workings beneath would appear, certainly, a convincing testimony, both as regards the time and the vast riches derived from them. We know that within the last few years they have returned upwards of 600 tons of lead ore to market in a single month; and with the extensive appliances now available, it is being added a new 100-in. cylinder pumping engine, it is probable they may continue for years to come. The geological position is directly at the extremity of a chain of hills, ending in broken strata, to the west of the Prestatyn Mines, and immediately contiguous to the coal measures, which run north and south in a comparatively similar direction. It is on these circumstances chiefly, and combined with other causes, that I propose establishing my hypothesis, and on which I venture to challenge an instance of deviation; for, though an exception or two may appear, they are of a very trivial nature, readily accounted for, and should tend rather as a landmark of caution than, as they too frequently are, adduced to support a false theory, or, rather, as some palliation for ensuring the inexperienced and unwary. I will now endeavour to explain the stratification of these well-known mines, and venture a theory as touching the singularly accumulated deposits therein contained. The great body of rock in depth is the carboniferous channel of limestone, running to the west of the Prestatyn Mines, and broken up and thrown into a series of small pieces, and occasionally covered by the chert rock and mountain shale skirting the coal measures. The general direction of this main vein varies between north-west and west, and it is frequently intersected by oblique counter veins running in directions transversely with the range of hills, thus forming with it several junctions (which may be compared to the branches rising from the main trunk of a tree), being the natural media by which it has become charged. In its practical development it is frequently found that large deposits of ore are discovered in proximity, though apparently disconnected with the vein, which by the miners are termed "bellies" of ore.

In speculating on, and to account for, the causes likely to have produced the great quantities of lead ore in the secret operations of Nature, we are left in a great measure to the resources of our imagination, backed, of course, by a close observance of those laws which are held unchangeable, and a keen regard to the book of Nature as disclosed by mining into the bowels of Mother Earth. To avoid technical phrases, I presume most of not all of your numerous readers are prepared to admit the existence of the generation of the most powerful explosive agents within the crust of the globe, producing in the arrangements of Nature the utmost contention and terrific disturbances. We may imagine, then, at long and distinct periods the convulsive dislocation and upheaving of the superincumbent masses, causing in some cases fractures of great magnitude, and in others those of minor importance, but all becoming the vents for the emission of combustible and other gases, which may have been the most likely to form the chief combined media of those beautiful brilliant cube deposits of lead which have hitherto baffled the chemical skill of man. We can imagine a succession of boundless convulsions, after the lapse of ages of repose, breaking again and again principally through the same huge outlets by means of the weakened crust, before the deposits of metalliferous and other compounds had cemented or sealed up the first great damage, thus from time to time forming and breaking up the structure, causing those caverns so common in the sides of the lode, and which have afterwards become filled with metal deposits, being together continually fed by the previously confined gases and metalliferous compounds by means of which they are enriched, and finally emerging from the great deep to graze the surface of Almighty power and wisdom accessible to man, to become an almost inexhaustible mine of wealth, and a no mean contributor to the nation's greatness and renown.

A FLINTSHIRE MINER.

DOLGELLY MINING DISTRICT, NORTH WALES.

SIR,—Having recently come from the above district, it may be interesting to many of your readers to know what is doing there. During the gold mania in 1855 it was "all cry, and little wool," it certainly is reversed now, being "all wool, and no cry." Success is the rule, and not the exception. At Clogau Gold Mine, St. David's lode is being sunk upon, and a rise being put up from the deep cross-cut 30 fms. from surface. They have visible gold in the lode, not only in the roof of the shallow level, but also in the sink and in the rise; the richness at these points show, without doubt, that the ore ground laid open will, without further discoveries, last for years. The returns of gold are regular, and can be increased with an increase of machinery; 9 lbs. weight of pure gold was forwarded to the London office on Saturday, the result of a fortnight's work. Capt. John Pryor, the manager, is an intelligent man, and feels a pleasure in showing the works. No secrecy is observed; and after seeing and feeling the large quantities of gold in the quartz, and the cheap mode of extraction, the most prejudiced must be satisfied as to the fact that the Dolgelly district is as rich in gold quartz reefs as Australia and California.

The next mine at work to the Clogau is the IMPERIAL SILVER-LEAD AND COPPER MINE, under the able superintendence of the managing director, Mr. Josiah Harris. Gold is not being worked for here, although there cannot be a reasonable doubt but that the Clogau gold lode runs through the property. The mine is being worked for lead and copper upon the Cornish system, with undoubted success. Two shafts are being sunk: Joe's shaft is down 17 fms. and will lengthen—magnesian north and south. Fanny's shaft is down 7 fms., and will take the lode at the 10. Most favourable indications have already been seen. System and perseverance is the order of the day here.

THE PRINCE OF WALES MINE is below the Imperial, on the same mountain, and is worked by a Sheffield company. For years past nothing seems to have been done here but driving long levels. Some masterly lodes have been met with, but have never been driven upon to prove them. Some very fine gold specimens have been obtained from this mine; I hear a gentleman (Mr. Moon) is about trying his hand to extract it upon a large scale. The gold of this mine is associated with lead and blende, being quite different from the Clogau. The operations of extracting will be watched with much interest.

At the CAE MAD STEWEN MINE some four men are at work, opening up a most promising looking vein for gold.

The CAE GWIN MINE has been purchased by Mr. Wilkins, and will shortly be put to work. This was the seat of Mr. Charles Lowe's operations in 1855.

At the ANNA MARIA MINE very little is being done. It is being worked under the management of Mr. Simpson.

The PENMAEN MINE is being worked for copper by a French company, with every chance of success. During the gold fever two of Berdan's pans were erected to extract the gold; I believe Mr. George Batters was secretary to the company. These two ma-

chines, which cost, I think, about 16000, have been sold to the Clogau Gold Mine for 3000, where they are now successfully at work.

THE Y-LADUS MINE: This is a celebrated silver-lead mine, belonging to Mr. Winstanley. Some of the dressed ore contains upwards of 400 ozs. of silver to the ton. It is being worked upon a moderate scale with success.

THE GLASTON CORNISH MINE is being and has been worked with great success for five years. The ore is of poor quality, but in great abundance. No lode can be seen; it is an immense bunch, and is being worked away in chambers of 30 to 40 ft. wide. It is a remarkable deposit, and well worth being seen by any person interested in geology.

SOVEREIGN MINE: This can hardly be called a mine. The fortunate possessor, Mr. Josiah Harris, who resided at Dolgelly about six years since, but now of Devonshire, has only had a grant from the Crown three months, during which time he has made a most valuable discovery of copper ore. The lode within 2 fms. of the surface is worth 400, per fathom, and richer as it goes down. No one is more deserving of success; during his three years' residence here his candour, perseverance, ability, and benevolence to the poor won him the respect of all.

At CAE FOXES INOX MINE, Messrs. Townsend and Wood are raising considerable quantities of iron ore, and are building an extensive shipping quay at Penmaen Park.

This important district is proving its mineral wealth daily, and ere long will rank with the best in Cornwall.—Mining Exchange, London, Sept. 4.

F. G. S.

THE MOLD LEAD MINING DISTRICT.

SIR,—I noticed in the Journal of last Saturday that "a party of gentlemen are about to commence operations at the Gworn-y-Mynedd Mine, within 1½ mile of Mold, with a capital of about 10,000." Whether that sum will be sufficient to develop the concern remains to be proved; however, I believe it to be a good speculation, and wish the party success in the undertaking. Then we are informed that "close to this mine lies the Mold or From Lea Lead Mine, which, for some reason, is now idle, after putting in a good and substantial engine, buildings, &c., that will enable the proprietors" (with cash) "to carry out the mine more extensively." To the whole of which I readily subscribe; but, subsequently, we are told—"The sinking of the engine-shaft 20 fms. deeper, and the bottom level extended out, would, I feel certain, after personal inspection, lay open good mine." Now, I do not hesitate to object to this statement, more especially as it has a tendency to mislead. "I feel certain" that "personal inspection" has not enabled my friend to form a proper estimate of the probable capabilities of the future of this mine—that any person should advise "the sinking of the engine-shaft" 18 fms. at least into the "heading of the flat," and then drive a level from 50 to 60 fms. in dead barren ground, on the credit of what was seen by "personal inspection" 3 fms. above the back of the deepest level, is not accurate—in fact, it is a positive proof of the want of a knowledge of the nature of this mine. Nevertheless, there are several points well worthy of development, and, if properly developed, I feel great confidence as to the result, without "sinking the engine-shaft." Moreover, if some of those points had been operated on which I strongly pressed at the commencement, I feel confident that the mine would be at this time in full operation, and the position of the company far different.

From the Mold, Sept. 4.

RICHARD RICKARDS.

ASHBURTON UNITED MINING COMPANY.

SIR,—Having known Ashburton Mine for as long as I can remember, and also known the quantity of tin returned by former workers, under the most injudicious system of management that could possibly have been adopted, I felt pleased when I heard of this gentleman, Mr. Ennor, having taken it up, and that he offered to erect a 60-in. engine and fork the mine to the bottom, and raise 10 tons of tin, and put up 20 water-stamps for 60000. I then thought he offered to do what he could not perform, and I watched his proceedings narrowly; and, to my great surprise, I not only found that he erected a 60-in. engine, and forked the water within the six months, but he also raised about 20 tons of tin, and all for less than 60000. I remember Mr. Ennor saying at the last meeting he attended that he would sink the engine-shaft 20 fms. a year, and he did not think above one or two more calls would be wanted. At this time, Mr. Ennor made some objection to the cash account, as not being strictly kept in accordance to the rules he had framed. He was then opposed by the late elected committee; he then resigned. His resignation was not the best part of the year for getting up steam-stamps, in the right place, but did not know how to keep him. I have daily watched its progress since, and what is the result? No 20 fms. sunk in the engine-shaft annually. Some shareholder last week openly stated that the shaft is only about 20 fms. deeper than when Mr. Ennor left, after a lapse of nearly four years; whereas Mr. Ennor, to perform what he offered to do, would have sunk the mine 80 fms. It is well known to all that Mr. Ennor is a cautious man, ever on his guard not to say what he cannot perform. As a proof that he was right, I will call the reader's attention to Capt. Webb, who has sunk a shaft at Great Cribbin Mine 120 fms. deep since Mr. Ennor left Ashburton United.

I noticed in last week's Journal that Captain Cundy said he can sink as much as 30 fms. a year in the engine-shaft, below the level of the shaft, and this once again, Mr. Ennor knew what he was about when he made the assertion. It is known to all who pass by Ashburton Mine, and look at the stuff drawn from the shaft, that a better channel of ground for sinking does not exist in the West of England. The remarks of "Shareholder" in last week's Journal show that the lodes have turned out tin beyond expectation. I have every reason to believe if the mine had been left under Mr. Ennor's control it would have been a first-rate dividend-paying mine for two years past. Mr. Ennor has ever proved himself an energetic and business-like man, thoroughly understanding what he is about; whereas the mine since he left has been worked on the slow-time principle. I say, adopt Capt. Cundy's motto, and sink 30 fathoms a year—sinking 6 fathoms is only sinking shareholders' pockets.

Ashburton, Devon, Sept. 3.

AN ASHBURTON MINER.

ASHBURTON UNITED MINES—STEAM-STAMPS.

SIR,—Under this heading, a correspondent in last week's Journal has very properly drawn the attention of the shareholders to the very ineffectual mode of preparing the abundant supply of tinstuff on this mine for the market. There appears to be no question but that a large return of tin might be made with proper management, but let me ask of what possible use is the very best and most powerful water-wheel, with even a hundred stamps heads, without water to drive the wheel, which is the case here, except when there is a heavy rain, and from the water obtained by an expensive mode of pumping, the both together not equal to the quantity needed for three or four months in the year? Thus, instead of being able to look forward to dividends being paid, calls must be anticipated. The correctness of the above statement will be fully seen by any one who will take the trouble to enquire for himself on the mine. The committee appear to be losing the best part of the year for getting up steam-stamps, perhaps as the winter closes in upon us, and the erection of them will cost from 30 to 40 per cent. more than at present, they will be proceeded with. There used to be bi-monthly meetings of the shareholders called—the last was held on June 7, the next is fixed for Sept. 25. Thus, while a greater promptness of action is needed, a longer interval than usual takes place between the meetings. There cannot certainly be any difficulty in calling a special meeting of the shareholders on the mine to give the necessary vote for the erections, if such be required, and at that meeting much useful information might be elicited from the resident agents, who must certainly know more of the requirements of the mine than those who only visit it occasionally; and the shareholders would have an opportunity of enquiring into the state of affairs for themselves.

ANOTHER SHAREHOLDER FROM THE COMMENCEMENT.

BOTTLE HILL MINE.

SIR,—The Journal of last Saturday contains a letter signed "Veritas," the purport of which is to commend to public notice several mines of which I have some knowledge; and with respect to one of them (Bottle Hill) I beg to state a few facts, which may, perhaps, make "Veritas" cease to wonder why it is neglected by the public. When the present company began to work the mine it was calculated upon raising 10 tons of tin per month, which, at the price of the tin at the time, would leave a profit of from 4000 to 6000, per month. The correspondent of Truro also spoke of it in glowing terms, saying that the mine was full of tin, and that the proprietors had added fresh laurels to their fame by introducing it to the public. Mr. James Crofts, also, wrote in eulogistic language, availing that "success in this mine was sure, and dividends were certain." Other commendatory notices have appeared from time to time; and, as a result of such statements, shares went up to double the price at which they were issued, and at that time I was unfortunate enough to purchase some. Now, if "Veritas" will compare the promises and expectations with present results, he will see the reason why the shares are at a dead level, notwithstanding the 17 tons of tin to be sold in a few weeks. Some of the shareholders have great confidence in Capt. Eddy; but whatever practical skill that gentleman may bring to bear upon the operations in the mine, he possesses no talismanic power to transmute base earth into precious ore; neither does he possess an infallible judgment, as evinced in his reports.—Sept. 3.

NORTH TRESKERBY MINING COMPANY.

A general meeting of shareholders was held at the account-house on the mine, on Tuesday, Mr. B. MATTHEWS (the pursuer) in the chair.

Upwards of 60 adventurers were present, all of whom were highly gratified with the very cheering prospects of the mine. The pursuer having read the notice convening the meeting, the following statement of accounts for May and June was submitted:—

Balance last audit	£ 309 4 9
By sales of tin ore, April and June	170 10 3
By copper ore sold for May and June	1662 10 5
Sundries	4 14 0
£2147 2 2	
May cost	£ 551 18 2
June ditto	456 8 2
Merchants' bills	407 1 11
Lords' dues	101 16 10
£1617 5 1	

Leaving balance carried on to next account

The profit on the two months' working was £304 12s. 4d.

The CHAIRMAN moved that the accounts as presented and examined be adopted. This having been seconded by Mr. SAMUEL WATERS, was unanimously carried.

Mr. F. PRYOR (the manager) then read his report on the mine. After detailing the workings, he stated that "We shall sample at our usual time 320 tons of similar produce copper ore as the last, and notwithstanding the low standard of the ores now credited, we have made a profit of 3200 12s. 4d., besides having considerably increased our tin work operations. With the 320 tons of ore to be sampled, and tin already sold, we have at our next meeting of adventurers show a still greater profit, and in doing this we have no hesitation in saying that our discoveries have been twice as much as we shall sell for the time mentioned."

Mr. NICHOLL said that all must be well pleased with the manager's report, as it plainly showed that their prospects were gradually improving, and that the mine was being worked with energy and in a miner-like manner, and before long dividends would no doubt be declared. Before, however, the report be adopted, he would like to ask their manager one question, which was in reference to the depth of the cross-cut that would be put out to intersect the middle lode at Waters' shaft.

Mr. KENDALL said at these meetings were, he thought, the proper place for having discussions relative to the working of the mine, and especially as Mr. Pryor was always ready to give every information respecting it, he wished to know if Highburrow shaft could be sunk or otherwise, and why not sink it? He did not consider that it would be faster? Had this been done two years since they would have seen a great deal more of the mine, but he did not refer to the operations that had been adopted since the mine had been under its present management.

Mr. PRYOR, in reply to Mr. Kendall, said that his remarks were very proper, but he must decline dating back further than when he took the management. To sink Highburrow shaft would be a great deal to do, and he was not sure it would be worth the cost. It had been already sunk as far as the water would allow, but to sink two shafts within a distance of 18 fathoms of each other would involve an expense which he did not consider they were justified in incurring. The shareholders must also bear in mind that hitherto they had been enabled to sink the pump-shaft 2 fms. per month, which was very important. Two shafts of 18 fms. each would be a great deal to do, and he was not sure it would be worth the cost. The progress in sinking Highburrow shaft in this

70, east of cross-cut, on Wheel Maria north side, will produce 1 ton of ore per fm. One slope in back of the 80, and within 20 fms. of the end, will produce 4 tons of ore per fm. All other places look much the same as for some time past. Our ore sold on Aug. 29 has weighed 612 tons 19 cwt. 2 qrs., realising £297. 8s. 10d.

NORTH BASSETT.—T. G. Dwyer, Sept. 4: In Grace's shaft the lode has rather improved, and is now producing about 2 tons of ore per fm. No other change since report of last week.

NORTH BULLER.—J. B. Delbridge, Aug. 30: In the 78, west of the engine-shaft, the lode is from 12 to 18 in. wide, yielding good stones of tin in a very good channel of ground. In King's shaft, sinking below the 42, the ground is favourable; lode from 10 to 16 in. wide; the length of the shaft yielding rich stones of copper ore, but not to value as yet. In the 42 east the lode is from 14 to 20 in. wide, composed of prill, peach, quartz, muddle, and spots of copper ore. In the 42 west the lode is small, which is most likely to continue until we cut the cross-course. We have the life working at the 42 to keep off the surface water. We are sinking dry below the 42. The ends are quite dry also. We hope if the weather continues dry, to stop the rods in the coming week.

NORTH FRANCES.—F. Pryor, Sept. 4: In the 60, east of Hunt's shaft, the lode is presenting what I consider a good appearance, and is producing splendid stones of black and grey ore. If we may judge from appearances, I hope the next level will do something for us. The shaft is down, and no time will be lost in proving the result, also in cross-cutting at this point to intersect the lodes near West Basset.

NORTH GREAT WORK.—J. Pope, Sept. 3: The lode in the 10, east of Lloyd's shaft, is about 1 ft. wide, producing copper ore, muddle, and saving work for tin, a very promising lode. Thomas's shaft, sinking below the deep adit, is about 4 ft. wide, on the south side there is a branch about 7 in. wide, yielding saving work for tin; on the north side of the shaft there is a branch about 9 in. wide, good work for tin. These branches are falling together as we go down, and between them there are other smaller ones, from 1 to 2 inches wide, altogether presenting a kindly appearance, and, more than this, a tolerably good lode.

NORTH LAXEY.—R. Rowe, Aug. 30: We are coming to a change in the 27 end; we have got an open joint in the hanging-wall; I expect we shall have lead in the end again shortly. The lead in the shaft looks about the same as when you saw it on Tuesday. We have nothing new in the 38 end yet. I intend going to Ramsey to-morrow to get far and everything ready for the week.

NORTH MINER.—W. T. Harris, Sept. 5: The new shaft is now in course of sinking, and the ground is favourable for progress. The stope at Pugh's are producing reasonable quantity of lead per fathom, and have every appearance of a continuance. At Wilson's shaft the lode in the driving north has a little improved upon last report, and a further improvement may be expected when we intersect the lode a little in advance of the present end. All other operations progress satisfactorily, and without any material alteration since last report.

NORTH WHEEL ROBERT.—J. Richards, Sept. 5: The 52 west, east of Elliott's cross-cut, is on the point of being communicated with Crowie's winze, on No. 1 south lode. As soon as this communication is made a 40 fm. level will be driven east, there will be Edwards' cross-cut south, at the 30 west, the ground is easier for progress. In the 30 west, east of Edwards' cross-cut, on No. 1 south lode, the lode is unproductive. The lode in Davies' rise, in the back of the 30, is 18 in. wide, and yields good stones of ore. In the 20 west, and west of Fall's rise, the lode is worth 2 tons of ore per fm. In the 20 cross-cut, north of Fall's rise, the north part of the lode is intersected; it is 3 feet wide, and consists of an abundance of muddle, quartz, peach, and fine stones of ore. In the 30 west, east of Friend's cross-cut, on No. 2 south lode, the lode is small (1 foot wide); it, however, yields good stones of ore. Lich's winze, below the 30, and west of Friend's cross-cut, on No. 2 south lode, is communicated with the 40 fm. level below; this has secured good ventilation, and will enable us to prosecute both No. 1 and No. 2 south lodes to the greatest advantage. The 30, west of the trial-shaft, on the tin lode, is being driven by the side of the lode. The trial of the stuff broken from the lode is satisfactory, proving it to be worth about 15¢ per fathom.

NORTH WHEEL TRELAUNY.—H. Hodge, H. Harvey, Sept. 5: Major's engine-shaft is sunk 8½ fms. under the 65. There is nothing new to notice in any other part of the mine.

NORTH WREY.—T. Kent, Sept. 5: The lode in the main shaft is of the same character as reported last week, being composed of congealed flookan, prill, floor-spar, strong muddle and quartz, spotted with lead ore, and is looking exceedingly promising; I am pleased to say, and being favourable for sinking, that the men are making good progress. It would be advisable that a new drawing-machine should be attached to the wheel, to draw the stuff, instead of the horse-whim, which will be a great saving to the company. We may expect shortly a full supply of water for all purposes.

OKEL TOR.—W. B. Collom, Sept. 5: In the 80 east no lode has been taken down for the week. In the back of the 65 the lode will yield 10 tons of ore to the fathom. The stope in the bottom of the 50 have improved, now yielding 12 tons of ore to the fathom. The pitches in back of the 50 are looking very well. In the other parts of the mine there is no alteration to report.

OLD TOLGUS UNITED.—Wm. Pascoe, Sept. 3: There is but little change in the prospects of the mine since the meeting. New South Lode: In the 52 we have commenced to drive a cross-cut to the south part of this lode, which will be intersected in about 8 or 10 ft. driving. South Lode: The lode in the 52, in this end, still maintains its size (2½ ft. wide) made up of quartz, muddle, and producing stones of good copper ore. In the 42, west of cross-cut, the lode is 2½ ft. wide and of much the same character as in the 52, also yielding stones of good quality copper ore, and letting out pretty much water. The lode in the 32 west has improved; it is now fully 15 in. wide, composed of blende and muddle, with more copper ore intermixed; a kindly lode. The country about it is also eased, and of a more congenial nature.

PEDAN-BREA.—Wm. Tregay, J. Delbridge, Aug. 31: But slight progress has been made in sinking the engine-shaft for the week, as well as driving in the 110 east, in consequence of the shaftmen having broken the windrose; this has now been replaced by another, and we hope to make better progress next week. The 100 east is poor. In the stope in bottom of this level we have also been hindered by the water, and until it can be got out again the men are employed rising in the back of this level, about 20 fms. further east, where the lode is worth 20¢ per fm. The 90 west is poor. The 90 rise is worth 35¢ per fm. The 90 west, on Skimmer's lode, is worth 5¢ per fm.—Street and Bragg's: We have finished cutting ground for tram-road in the 47 east. The 40 east is worth 8¢ per fm. Our stamping-engine went out of order in the week, so we have not been stamping regularly; it is now being repaired, and we hope to get all right again this evening.

PENHALDARVA.—J. Pope, S. A. Pope, Sept. 3: We have driven the 60, north of engine-shaft, 12 fms., the leader part of the lode the whole distance, from 12 to 18 in. wide, producing occasional stones of lead. The 60 is driven south of the engine-shaft, 2 fms.; lode large and unproductive. The 50 is driven north of engine-shaft a great distance, which passed through some small bunches of lead, but at present unproductive. The winze sinking below the 50 fathom level, 18 fathoms north of the engine-shaft, is down 3 fathoms; lode large, and has produced good bunches of lead, but at present poor. In the adit cross-cut north we have intersected a caunter lode about 6 in. wide, composed of lead, blende, flookan, and muddle—a very kindly lode, but being only 4 fathoms deep we cannot say much about it until further extended on.

PROSPER UNITED.—W. H. Martin, Sept. 5: Louisa's engine-shaft is cut down to the 30; during the last few days the ground has become more favourable. We are still clearing and putting into proper condition the 30, east and west of this shaft. At Hoak's engine-shaft sufficient ground has been removed at the 20 for the reception of bearers, elms, &c., and at present the summen are engaged fixing the same for the plunger-lift, which we hope to get to work by the latter part of next week. The new shaft on Murchison's lode has been sunk 16½ fms. from surface; during the last few days the lode has somewhat improved in appearance, and is yielding some good stones of copper ore. On Friday morning, at Louisa's engine-shaft, we were delayed a few hours in consequence of the parting of the bucket-rope, which was quickly repaired, and the engine soon set to work again.

REDMOOR.—T. Taylor, Sept. 3: We are desling the lode in the 80 and 70 ends west. The ground in the 80 is more mixed with spar. In the 70 the ground is a little better. In the 40 the ground is a little better; no change in the lode. Tribute pitches without alteration.

RIBDEN.—R. Nines, Sept. 5: The ore still continues in the bottom of our present workings—below the 62—but the water is getting so powerful as we go down that it occupies nearly all the time to draw the water, consequently we cannot cut but little ore, and therefore there should be time lost in driving a level west at the bottom of Gilbert's shaft to relieve this valuable piece of ore ground of the water, which I have repeatedly referred to in my former reports. I am glad to say that the dressing of the ore is going on most favourably, and we intend to sample and weigh it on Saturday.

ROSEWALL HILL AND RANSOM UNITED.—E. Thomas, Aug. 28: The lode in the Ransom engine-shaft, sinking below the 110, is 2 ft. wide, and much the same in value as when last reported—7¢ per fm. In the end driving west of the Troan we have intersected a cross branch, which has disordered the lode, which is worth from 15¢ to 20¢ per fm. The lode in the end east of shaft is without change. The winze below the 100 is communicated with the 110; we have set the eastern end of the winze to stop by two men, at the 100, the lode is 4 ft. wide, worth 20¢ per fm. The other parts of the mine are without change.

R. Thomas, Sept. 4: The lode in the Ransom engine-shaft, sinking below the 110, is from 2 to 3 ft. wide, worth 8¢ per fm., and has every appearance of improving. The lode in the end east of shaft is much the same as for some time past, worth 6¢ per fm. The lode in the end west of the Troan, at this level, is still large, and of a promising character, now worth 20¢ per fm. In the stope in back of this level, east of Curman's winze, the lode is from 5 to 6 ft. wide, and worth 20¢ per fm.; we think the improvement which has taken place at this level is of much importance. The lode in the 80 and east is worth 8¢ per fathom. The stope in the back of this level, west of Curman's winze, is worth 8¢ per fathom. The 70 east is suspended, and the men are engaged in sinking a winze a few fathoms behind the end, for the purpose of ventilation, and laying open the ground at this point, and making it available for working. The lode in the adit winze is 2 ft. wide, and worth 12¢ per fm. It is very probable that we shall open up at this level a great many fathoms of good profitable ground. The stope in bottom of the 60, east of Penberthy's winze, are worth 7¢ per fm. The stope east and west of Penberthy's winze, in bottom of the same level, are worth on an average 10¢ per fm. The tribute departments are looking much the same as for some months past.

ROSEWALL UNITED.—H. Woolcock, Sept. 5: In the 90, west of footway, the lode is 2½ ft. wide, unproductive. In the 90, east of Jennings's, the men are rising; lode 15 in. wide, worth 3¢ per fm. In the 80, west of footway, the lode is 2 ft. wide, producing stones of ore. In the 50, east of Jennings's, the lode is 3 ft. wide, composed of spar, prill, muddle, and ore, but not sufficient to value. In the 74, at Richards's, the men are still driving south to cut the lode. In the 58, west of Richards's, we are driving on the south part of the lode, which has rather a promising appearance. In the 46, east of Lane's, the lode at present is disordered by a cross-course. In the 46, west of Richards's, we are sinking a winze; lode 3 ft. wide, producing a little ore. In the 34, west of Bush, the lode is 3 feet wide, with a promising appearance. In the 34, east of Lane's, the lode is 20 inches wide, producing stones of copper and tin. At Wellington shaft, sinking below the 22, the lode is 2½ ft. wide, with a promising appearance. The tribute department is looking very well, and the next sampling will be a very good one in quantity and quality.

SILVER VEIN.—F. Squire, Sept. 5: Both at the works and mine everything is progressing satisfactorily. By the time stated in last week's report I shall again sample from 25 to 30 tons. The delay caused by our first sale arises only in consequence of buyers of silver ore residing at Swansea, Newcastle, &c., and who require time to offer for the ore from which they have taken samples.

SORTIDGE CONSOLS.—R. Jackson, Sept. 5: In the 74 east, on No. 2 south lode, no lode has been taken down this week. In the 62 west the lode is 2 ft. wide, yielding a little ore. In the 50, driving south-west of Crew's cross-cut, and west of the eastern cross-course, no lode has been met with. Mayne's rise, in the back of the 50, on the south part of the main lode, is communicated to the 40; the lode is worth for the last 4 fms. from 20¢ to 30¢ per fm. for 6 ft. long. In Gibbons's rise, in the back of the 40, on the south part of the main lode, the lode is worth for length of rise (9 feet) 45¢ per fathom. In the 40, east of Head's rise, on the south part of the main lode, the lode is worth 1 ton of ore per fm. In No. 2 south lode, in the 50, west of Mayne's cross-cut, the lode is small and unproductive. In Blanchard's stope, in the bottom of the 40, the lode is worth 1 ton of ore per fm. In the 40, west of the 40, the lode is worth 2 tons of ore per fm. In Lawry's rise, in the back of the 30, no lode is taken down. There is no change to notice in any other part of the mine.

SOUTH BRYN GWIOG.—J. Lloyd, Sept. 3: The east level has been driven in a complicated state for the last five or six years, caused by a caunter lode crossing through and

disarranging the measure; the rock seems to be firm again, and the lode carries a thin rib of ore on the north wall. Dunsford's shaft is without any change since last advised.

SOUTH CAIADON WHEAL HOOPER.—W. C. Cock, Aug. 31: The lode in the engine-shaft has the appearance of becoming larger, and is letting out more water. In the 62 west the lode has become small, and spotted with copper ore, but not to value; the ground is harder, but of a more favourable description for copper ore, and it is perfectly analogous to that of the neighbouring mines about the productive lodes. It is my firm conviction that those shoots of ore we are frequently meeting with are connected with a course of ore of great magnitude. In the 47 cross-cut the ground continues hard. The lode in the winze sinking below the 47 cross-cut is about 5 in. wide, being a mixture of elvan and peach, with spots of copper ore; we shall find it necessary in order to sink this winze to have a small lift, and attach the same to the engine, as we find the water to be increasing, and it is a matter of importance that it be sunk to the 62, as it will ventilate that level, as well as proving the ground between that and the 47, and will also enable us to carry out a more rapid development of the lode below the 62, by sinking a winze below that level while we are driving the cross-cut towards it in the 90, which I hope we shall commence in about two months from this time.

SOUTH CARN BREA.—T. Gifford, Sept. 4: There is nothing new in this mine, or Wheel Union, to report on.

SOUTH CRENVEE.—E. Chagwin, Sept. 3: In the flat-rod shaft, sinking below the 150, lode 1½ ft. wide, producing good stones of copper ore and muddle. We have taken down the north part of the lode in the 105 east, which is about 1½ ft. wide, producing ¼ ton of copper ore per fm. Our pitches are without change.—South Mine: In the 51, east of cross-cut, the lode is 3 ft. wide, producing good stones of tin, muddle, and spots of copper ore. The lode is 3 ft. wide, producing stones of tin, muddle, and spots of copper ore.

SOUTH DARREN.—J. Boundy, Sept. 3: The engine-shaft is sunk 11 fms. below the 70. Saturday last being our pay and setting day, the following tawork bargains were set:—To sink the engine-shaft 3 ft. deeper for a fork, by nine men, at 20¢ per fm. This I hope will be completed in about a fortnight, after which it is intended to drive both east and west of the engine-shaft, on the course of the lode, in the 80, where the lode presents a very encouraging appearance. The 70 to drive east by six men, at 7¢ per fm. The lode is 5 ft. wide, yielding about 10 cwt. of lead ore per fm. There are four stopes set in the back of the 70, both east and west of the shaft, to 18 men, at 60s., 65s., and 65s. per fm.; these stopes yield on an average from 10 to 12 cwt. per fm. To sink a winze below the 60 east, near the present end, by six men, at 7¢ per fm. To stop in bottom of the 60, west of the engine-shaft, by four men, at 60s. per fm. I cannot give you the value of the lode at this point at present. The 30 to drive east on the north lode by two men, at 90s. per fm.; the lode at present is small and poor. The 20 to drive west of the air-shaft by four men, at 120s. per fm.; the lode of much the same character and value as last reported, yielding about 6 cwt. of ore per fm. We have not as yet found any more lode in the 40 east. There is nothing new to report on in the tribute department. The machinery is in good working order.

SOUTH DOLGOCH AND BARNARTON CONSOLS.—Wm. Roberts, Sept. 4: I cannot speak of any improvement since last report.

SOUTH HERODFOOT.—J. Wolferstan, Aug. 31: The adit level cross-cut has been extended 67 fathoms west, and intersected a large strong lode, 3½ feet wide, composed principally of quartz, muddle, and gossan. At the point of intersection the back is 12 fms. high, or so much from surface. We have driven on the course of the lode about 20 fms.; it varies in size from 1½ to 3 feet wide, and is composed of quartz and gossan. We have also driven about 10 fms. north, and find the lode to be about 2½ feet wide, and much the same in character as going south. We purpose driving another 10 fathoms south before deciding on the most eligible place for sinking a shaft. It will then be necessary to call a meeting to consider the size of an engine, and what other machinery it may be proper to erect.

SOUTH TOLGUS.—Sept. 4: Yoursen's Lode: The lode in the 130, west of Mitchell's, is 18 in. wide, composed of peach, spar, and muddle. In the 120 west the lode is 15 in. wide, producing 1 ton of ore per fathom. The lode in the winze sinking in bottom of the above-named level is 18 in. wide, composed of peach, spar, jack, and muddle. The two stopes in back of the 120 west each yield 3 tons of ore per fathom. The 100 fm. level west yields 1 ton per fathom, and the 90 fathom level west 1 ton per fm. The lode in the rise in back of the 100 west is 15 in. wide, composed of peach, spar, and muddle. The lode in the 78 and 68 is small and unproductive.—South Lode: The lode in the 130 east is 2 ft. wide, composed of peach, spar, and muddle. The lode in the 120 east is 2 ft. wide, muddle, and good stones of ore—a fine, strong, kindly-looking lode. The lode in the winze sinking in bottom of the 120 east is a fine, strong, kindly-looking lode. In the 110 east the lode is 20 in. wide, composed of soft spar and stones of ore. The two stopes in back of the 110 east each yield 1½ ton per fm. The lode in the 100 is 15 in. wide, chiefly composed of spar. In the 90 west, on the north lode, the lode is 2 ft. wide—a slab of muddle.—New South Lode: This lode in the 78 west is 10 in. wide; we have broken some fine stones of ore from it since last report, but it is poor at present.

SOUTH WHEAL KITTY (Leland).—S. Mitchell, Jun., Sept. 2: The lode in Webb's shaft is more settled within the last few feet sinking; I broke samples from the bottom to-day, producing 1½ cwt. of black tin per ton of stuff. The adit end is much the same as the former, being very near each other, and I think we shall communicate the shaft with the adit in the course of a day or two, as we can hear the men's voices distinctly.

SOUTH WHEAL MARGARET.—W. Richards, Sept. 1: We have cleared the adit to within 8 fms. of the great south tin lode, and find the adit is driven through a copper lode at this point about 2½ ft. wide; we are now clearing up a shaft on this lode; as soon as this is accomplished we shall then be able to commence clearing up a shaft on the great lode, and no doubt be able to open tin ground. We are also containing near the point of junction of the granite and kyllas, in order to lay open these lodes before mentioned. I expect Mr. Codd will then point out to him as to where I consider the shaft should be sunk in order to command the several lodes.

ST. IVES WHEAL ALLEN.—T. Richards, Aug. 29: In laying before you a report of this mine, I would observe that in the early part of the workings made here, we had an excellent lode for tin in Roderick's engine-shaft, sinking below the adit level. We have not worked the ends of the shaft since the tin cut out in sinking, having no means of returning it until the steam-stamps is put to work. The next point of operation that proved productive was in the 20, east of Louisa's shaft, but that has not been proved as yet above the 20, neither has it been wrought below to prove its value. In the carbons part we found four winzes sunk down from the 40, and large workings made, but, before we could work at any one of them, it was necessary to drive a level from Giesler's shaft in very hard granite, which took time to accomplish; and there is another winze yet to drive to communicate with the 50 end. On the lodes east and west the lode is very variable, but the principal lodes for size and yield of tin are the carbons courses. Both east in the 50 as well as west we find large courses of lodes containing tin, and I believe it will pay very well when the mine is further developed. I must confess that we have had disappointments in the bunches of tin being short so far as we have discovered; but when the quantity of tin is taken into account that in St. Ives Consols being like the lodes in our mine, I believe we shall find a level from Giesler's shaft discovered, and a continuance in tin lode we have had has been in the 34 east, which continues to be very good. The low price of tin has rather disappointed many adventurers; these are objectionable changes, over which we have no control, but get through the difficulty as best we can. As I have before observed, my opinion of ultimate success remains unchanged, and I feel sorry that our stamps are so long getting to rights; however, another fortnight is likely to complete the work.

T. H. Taylor, Sept. 5: I beg to inform you that Roderick's lode in the 20, east of Louisa shaft, is worth 3¢ per fm. Giesler's lode, in the 50 west, driving north on a carbons, is disordered by a channel of ground; I hope to say more about it next week. In the stope south of the carbons, the lode is 2 ft. wide, worth 5¢ per fm. In the 50, the lode is not so near the cross-course; lode disordered. In the 30 east we have the lode in the top of the stope; cannot say its value at present. In the 40 west the lode is 20 in. wide, with tin in it—not enough to value. We are getting on with the surface work as fast as possible.

TINCROFT.—Wm. Teague, Sept. 3: Highbarrow Lode: In the 184, driving east of engine-shaft, the lode is producing good saving work for tin. The 184, west of shaft, is suspended for the present, and the men engaged in cutting ground, preparatory to sinking the shaft, which will be resumed next month. The 173, east of shaft, is communicated with the 173, west from Martin's shaft, and save the working of the lift in Martin's shaft. In Martin's east shaft, sinking under the 173, the lode is worth for tin 20¢ per fm. In the 173, driving east of Martin's east shaft, the lode is worth for tin 8¢ per fm.

In the 120, driving west of cross-cut, at dawnright, the lode is worth for tin 10¢ per fm. Chapple's Lode: In the 162, driving west of sump-shaft, the lode is small and poor. The lode in dawnright shaft, sinking under the 152, is poor. In the 152, driving west of dawnright shaft, the lode is worth for tin 25¢ per fm. In the 152, driving east of boundary winze, to meet the last-named level, the lode is worth for tin 15¢ per fm.—Duncan's Lode: In the 142, driving west of cross-cut, the lode is worth for tin 50¢ per fathom. In the rise over the 142 the lode is worth for tin 20¢ per fathom. Other parts are without change.

TOLCARNE.—Sept. 4: Field's Lode: Field's shaftmen have completed the cutting of the plat in the 30, and have resumed the sinking of Field's shaft below the 30; no lode taken down since last reported. The lode in the 30 east is over 2 ft. wide, composed of soft floor-spar, prill, gossan, and good stones of ore. In the 30 west the lode is 2 feet wide, yielding 1 ton of ore per fm. The lode in the 20 west is 2 ft. wide, producing fine stones of yellow copper ore, with good spots of black and grey ore, intermixed with gossan. In the 20 east the lode is 15 in. wide, composed of gossan and spar, with good spots of ore, and letting out a quantity of water. The lode in the winze sinking in bottom of the 10 is small and poor. In the 10, west of the 10, the lode is 15 in. wide, composed of gossan and spar, yielding 1 ton of black ore per fm.—Enthoven's Lode: The stope in back of the adit level, west of cross-cut, is worth for tin 15¢ per fm. The ground in the adit cross-cut south is easier than when last reported. We have intersected a lode or branch 10 in. wide at King's shaft, which is now down 15 fms. from surface; the branch consists of spar, and contains spots of yellow copper ore, underlying very fast south; most probably it is the back of the tin lode; under this branch we have gossan.

TOLVADDER.—Aug. 3: The shaftmen have been engaged in cutting plat the last few days, and expect to complete the same by the end of this week. We sampled on Tuesday, Aug. 27 (computed), 190 tons of copper ore; a better average than the previous sample. The lode looks very promising as last reported.

TREFLUCK UNITED.—T. Hodge, Sept. 4: The 44 cross-cut, north of engine-shaft, is progressing favourably; nothing yet cut. In the 36 east, and east of the cross-course, we have driven south about 3 fms., but no lode has yet been met with. In the 36 cross-cut, driving south towards the caunter lode, the ground is a little stiffer for driving, owing to a floor of spar crossing the end; nothing yet cut. The lode in the 16 west, on the caunter, is about 9 in. wide, composed of soft spar, prill, gossan, muddle, &c., a very kindly lode. The engine and pitwork are in good order, and working well.

TRELOWETH.—T. Richards, Sept. 5: The lode in the engine-shaft yields stones of copper ore; the part that was most productive in the eastern end of the shaft has dipped east. We expect to make the shaft deep enough for the 144 about the end of the present month, when accomplished we shall drive north and south to prove the width of the lode, as well as prove the best part to drive upon. In the 134 end, driving east, the lode is yielding a large quantity of muddle, and consequently, not so good for copper ore. In the 134 end west the men have commenced driving south through the lode, to cut the part the winze is sinking upon, where the lode is worth 25¢ per fm., and, but for the hardness of the lode in the cross-cut, we should expect to see it soon, but in the present case it may require nearly a month to prove the lode in the south part. The winze sinking below the 124 is worth 25¢ to 30¢ per fm., and in consequence of some water in the lode, which impedes the sinking, we have thought it advisable to open east towards the bottom of the winze, where the lode looks remarkably well, and it has the appearance of continuing in depth, which is the reason of our driving south, to cut the same part of the lode in the 134. The lode in the sump winze is hard below the 124, and as it is many fathoms east of the 134 end, we are stopping east and west of the said winze, on a lode worth 20¢ per fm. in both places. The other places continue without alteration. The 24th inst. being our sampling day, I feel that the money value of the next sale will be quite as good as the last.

TRENCROM.—R. Hollow, F. Bennetts, Sept. 5: In the 100, east of Giesler's shaft, the lode is unproductive. In the 100, west of engine-shaft, the lode is worth 3¢ per fm. In the 90, east of the engine-shaft, the lode is worth 3¢ 10s. per fm. In the 90, west of the engine-shaft, the lode is worth 3¢ per fm. In the 80, east of the engine-shaft, the lode is worth 11¢ 10s. per fm. In the 80, west of the engine-shaft, the lode is worth 2¢ per fm. In the 60 cross-cut, north-east of the engine-shaft, the lode is 18 in.

wide, producing low price tin-stuff. In the 60 cross-cut, south-east of the engine-shaft, no change to notice. In the 39, east of the engine-shaft, the lode is worth 2¢ 10s. per fathom. At Hollow's shaft, sinking below the 10, the lode is unproductive. At Mitchell's flat-rod shaft, sinking below the 20, the lode is worth 6¢ per fm. In the 20, east of the flat-rod shaft, the lode is worth 5¢ per fm.

TREWEATHA.—J. Scoble, Sept. 4: The ground in the 30 cross-cut is more favourable for progress since last report. No alteration in the 15; it still continues to be worth 5 cwt. of lead per fm.

TRUMPET UNITED.—G. R. Odgers, Aug. 31: The lode in the engine-shaft is about 8 in. wide, and worth about 5¢ per fathom. The lode in the winze sinking below the 15 east is 10 in. wide, producing good work for tin, worth 5¢ per fm.—a very kindly lode. The lode in the stope above the 15 east is worth 5¢ per fathom. All the other bargains are progressing satisfactorily.

UNITED MINES (Taylors).—J. Tucker, Sept. 4: The dividing and casing of the shaft is completed to the 72, and the men are now engaged driving a cross-cut south to cut the lodes at that level. As the whim has been idle while the shaft has been cased, and the whim-shaft repaired above, the mine is unusually full of stuff, consequently no lode has been taken down in the 60 east, or in the winze lately; we purpose, however, to do so, and state the value next week. We shall sample on Monday next about 3 tons of tin.

VALE OF TOWY.—A. Waters, T. Harvey, Sept. 3: Clay's engine-shaft is now about 6 fathoms below the 100; lode in present bottom large, composed of sulphate of barytes, clay-slate, with large quantities of blende, and a mixture of copper ore throughout; ground favourable for progress. In the 100, driving north of said shaft, the lode is 2½ feet wide, composed of sulphate of barytes, with stones of blende intermixed; ground hard and difficult to open. In the 100, driving south of great cross-course, the lode is 2 feet wide, of a promising character. We are through the hard type of ground, and calculate that the lode will improve in general character between the present point and Field's shaft. In the 90, driving south of the shaft named, the lode is 2½ ft. wide, yielding good ore stuff occasionally, and opening tribute ground. In the 80, north of Clay's shaft, the lode is without change for some time past. In Nant's winze, sinking below the 80, south of Field's shaft, the lode is 18 inches wide, composed of barytes and blende, but not to value. There is a good bunch of ore south of this winze, and which will most likely dip into it between the present end and the 90. Nothing new in adit south of Nant's since our last. The tribute department is yielding fair quantities of ore.

WENTNOR.—T. Pierce, Sept. 3: In Grovernor's shaft the ground in the bottom has changed very much for the better, and we are occasionally getting nice lumps of ore. I expect we shall drop on to a course of ore here soon. In Bradley's shaft we are sinking on the Lord's Hill north and south lodes, and making good progress; we have got through the gravel, and the bottom is now in strong shale; the water is not so heavy. Abel's winze is sinking below the 64 in a very strong vein, and looks well for further improvement. [Mr. John Darlington (Phillips and Darlington) has late this week inspected the workings of this mine, and we are promised a copy of his report for our next issue.]

WEST BASSETT.—Wm. Roberts, Sept. 4: In the rise in the back of the 114, and in the winze sinking under the 104, tribute ground is being opened. In the 84 west the lode is 2 ft. wide, producing nearly 1 ton of ore per fm.; the same may be said of the lode in the winze sinking under the 75. In the 65 west the lode is 2½ ft. wide, producing 2 tons of ore per fm., and likely to improve; this end is present fathoms west of any other level. The sinking of Grenville's engine-shaft under the 84 is progressing favourably; we hope to get it holed to the 94 in about a month from this time.

WEST BRYN GWIOG.—J. Lloyd, Sept. 3: We have resumed driving the 65 west, which is still in rather a broken state of heavy ground, composed of yellow clay, spar, and large lumps of limestone, &c. The winze sunk under this level were obliged to suspend, as both ends could not be worked together with the present ventilation. The shoot of ore sunk upon in this winze did not prove so good as expected, owing, we presume, to its being too close to the disturbed state of the stratum for bearing.

WEST DEVON.—G. Rowe, Sept. 5: In the 40, east from engine-shaft, we have intersected a small cross-course, underlying west full 3 ft. in a fathom. The lode still continues of the same congeal character as before described, from which a moderate quantity of water is issuing; the ground for the last few days has been a little harder, consequently slower of progress. No change to notice in any other point. The engine and pitwork are in good working condition.

WEST H. CONSOLS.—Wm. Roberts, Sept. 5: The new engine-shaft is sunk 2 fathoms below adit; the ground is a little harder than above the adit, but still favourable. Since the dry weather has come in the water in the old mine has fallen, and the engine is draining slowly. We shall do all that is possible to drain the mine, and will give the lord notice when it is done.

WEST WENDRON CONSOLS.—R. Kendall, J. Hore, Aug. 31: The engine-shaft has been sunk this week 4 feet; no change in the lode. The flat-rod shaft has been sunk this week 4 ft.; the ground is very much harder. The ground in the north adit is much the same. The adit behind the smiths' shop has intersected a branch about 6 in. wide; no tin to value; we are expecting to cut into the adit working every day. The adit to cut the lode in 2 or 3 fms. more driving.

WEST WHEAL JANE.—J. Tonkin, J. Smith, Sept. 2: In the 70 west the lode is 4 feet wide, of a promising description for a tin lode, but not of much value at present. In the 50 west the lode is 5 ft. wide, worth 9¢ per fm. for tin. In the 30 west the lode is 3 ft. wide, worth 8¢ per fm. for tin. The stope in the back of this level are worth 10¢ per fm. for tin. In Painter's shaft, below the 10, the lode is 7 ft. wide, worth 13¢ per fm. for tin. In the 10, east of this shaft, the lode is 6 ft. wide, worth 8¢ per fm. for tin. In the 10, west of this shaft, the lode is 7 ft. wide, worth 15¢ per fm. for tin and muddle. We sampled on Friday last 3000 sacks of tinstuff of the average value, which will be offered for sale on Friday next. We have sold 400 tons of muddle since our last report.

WEST WHEAL TREVELYAN.—G. R. Odgers, John D.

SATHOM. I have suspended the working of this stop for the present, in consequence of too much water to be worked at an advantage. The lode in the 100 east end is improved, and worth for tin 18s. per fm. The lode in the stop above the 100 is worth for copper and tin 18s. per fm. I have set a stop below the 100, east from eastern shaft; the lode is worth for copper 12s. per fm. The lode in the 40 end, west of the 100, is without change.

WHEAL HOPE.—W. H. Reynolds, Sept. 3: The crank of the engine is broken, and it will take until to-morrow to get a new one at work; the water was down nearly to the 25 fm. level. I think we shall not be hindered in the 14; we are breaking good stones of lead here.

WHEAL KITTY (Lelan).—W. Williams, Sept. 5: Engine Lode: The lode in the 160 end, west of the engine-shaft, is 18 inches wide, low price stamping work; price for driving, 31s. 6d. per fm. The lode in the 140 end, west of engine-shaft, is worth 4s. per fm.; price for driving, 11s. 10s. per fm.—Gowan Lode: We have commenced to sink Wick's shaft below the 40; the lode is at present worth 6s. per fm. The lode in the 40 end, east of Wick's shaft, is worth 6s. per fm. The lode in the 40 end, east of Philip's shaft, is worth 2s. per fm.; at present the men are engaged in cutting ground for fixing light, &c.—North Russell Lode: The lode in the 15 end, east of Bolith's shaft, is 18 inches wide, producing tin, a kindly and favourable ground. The pitches throughout the mine are yielding about the same quantity of tin as for some time past.

WHEAL KITTY (St. Agnes).—R. Pryor, sen., J. Nicholas, W. Higgins, Aug. 31: The lode in the 100, east of engine-shaft, is 4 ft. wide, producing stamping work for tin; it is of a most promising character, and bespeaks an early improvement. In the 90, east of ditto, the lode is 2½ ft. wide, and worth 12s. per fm.; the ground is good for driving, and highly congenial for mineral. The lode in the 82, east of ditto, is 1 ft. wide, composed of mangle, blende, and tin, worth for the latter 6s. per fm. No alteration in the 72, east of ditto, has taken place since last reported on. In the rise behind this end the lode is 2½ ft. wide, and worth for its length of 12 ft., 12s. per fm.; we are by means of this rise exploring a very important piece of tin ground, which we have no doubt will, when laid open, work at a good profit.—Hoigate Shaft: In the 54, west of cross-cut, the lode is divided into two parts, each producing good work for tin, and worth 14s. per fathom. The cross-cut driving south of the old level is progressing satisfactorily; we have already driven 6 fms. where we have met with an increase of water, which we regard as indicative of nearing the lode; the ground is of the same nature as that in which the upper levels produced much tin during the former working. Our tribute pitches are much as they have been for some time past, and the machinery throughout the mine continues in good working order.

WHEAL NORRIS.—J. Nance, J. Andrews, Aug. 31: At Cremorne engine-shaft, in the 15 fm. level cross-cut south, we have again reached the soft ground, and shall no doubt shortly intersect the No. 5 lode. The No. 3 lode, in the 15, driving east, is now 3½ ft. in width, containing spots of yellow copper ore, and showing a strong kindly appearance. We have commenced driving east on two of the most promising lodes cut in the cross-cut recently driven north on the great cross-course, but have not driven far enough from the cross-course for the lodes to be in a settled state. The back stops at the flat-road shaft are yielding fair quality tinstuff. Vivian's lode, in the adit end driving west, maintains its size and character. The engineers attended here yesterday with the drawings of engine-house, &c., and the masons commenced building the house.

WHEAL PROSPERITY.—R. Kendall, R. Smeock, Aug. 31: Wilson's shaft is 5 fms. below the 10; the lode is yielding a little tin. Watson's shaft is at the 22; the summen have commenced driving east and west; the lode is small, yielding low stamping work. The lode in the 12, east of Watson's, is 8 in. wide, worth 8s. per fm. The lode in the winze, sinking in the bottom of the 12, east of Watson's, is worth 20s. per fathom. The lode in the 12, west of said shaft, is 9 in. wide, no tin to value.

WHEAL SILEY.—J. Syman, Sept. 5: The 17 fm. level is driven north of Whitman's shaft, 4½ fms.; the lode is 6 in. wide, producing saving work for lead, a kindly lode, although small. The 17, south of said shaft, is driven about 8 ft.; the lode is 18 in. wide, composed of soft spar, prisms, and lead, a very promising lode. In the cross-cut west of engine-shaft we have not yet met with the lode; the ground is easy for driving. The wheel and pitwork are in good working order.

WHEAL UNITY CONSOLS.—W. H. Reynolds, Sept. 5: In sinking the flat-road shaft the lode changed its underlie, and went north of the shaft 3 fathoms above the 85, at which point it was of little value. Last night we went into it in cutting the pit at the 85, where it is worth 8s. per fm. of 6 ft. long, or 16s. per fathom for length of shaft.

WHEAL WREY COXES.—P. Glymo, Wm. H. Smeock, M. Whitford, Sept. 5: We have intersected the lode in the 116, west of cross-cut; it is 3 ft. wide, composed of horn-spar, can, and lead, producing of the latter about 4 cwt. per fm., and of an exceedingly promising character. We have commenced to drive north and south on its course. In the 106 north the lode is 3 ft. wide, producing 6 cwt. of lead ore per fm.; in the same level south it is 2½ ft. wide, producing 5 cwt. of lead ore per fm. In the 96 south it is 3 ft. wide, producing 7 cwt. of lead ore per fm. In the 84 north it is 2½ ft. wide, producing 4 cwt. of lead ore per fm.; in the same level south it is 2½ ft. wide, producing 6 cwt. of lead ore per fm. In the 64 north it is 2 ft. wide, producing 5 cwt. of lead ore per fm. The lodes and pitches are producing much as usual.

YARNER.—R. Basset, Sept. 4: South Lode: The two stops, east of shaft, are worth 4 tons per fm. each. The 30 west will produce 3 tons per fm. In the 30 west the lode appears to be more regular; we have been about 10 in. wide, composed of ore and spar, but not enough of the former to value. We are obliged to suspend the stop on the north lode for a few days, until the stuff is got away. The water being in the 30 for a little while has caused the stuff to accumulate, but we hope to clear this shortly. There has been but little done in the 30 east, on this lode, during the week. The lode in the 20 east is 3 ft. wide, composed of mangle and peach, with stones of ore.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

POWEY AND PAR UNITED.—The engine-shaft is sinking satisfactorily, in a beautiful channel of ground. There is a new 36-inch engine erecting by Messrs. Nicholson, Williams, and Co., for pumping and stamping, and there is every expectation of this speedily becoming a good mine; it is owned by a highly respectable company, and the financial arrangements are well managed by Mr. E. S. Codd, who is well known in the mining world for ability and integrity.

NORTH HAYDON MINES.—Notices received yesterday (Sept. 6) from these mines state that the appearance of the lodes are as good as ever. The consulting engineer is to visit the mines in the coming week, and his report will be placed before the shareholders, giving details down to the latest moment.

BULMER AND BASSET.—The lode in the 80 west is looking very kindly, improving every time it is taken down. The lode is producing quartz, soft spar, chlorite, and yellow copper ore. The agents have a high opinion of this end.

DULFA.—On August 28 the secretary paid a visit to this mine, accompanied by two or three gentlemen, who carefully examined it, both underground and at surface. Some tolerably good work for tin is being broken from four different lodes (the Spar lode, 3 feet wide; Dyer's lode, 5 feet wide; Butt's lode, about 8 feet wide; and Shillman's lode, 4 feet wide). Since their visit, Dyer's lode (which "counts" the others) is reported to have doubled in value. Some solid lumps of grain tin have been met with in driving upon Butt's lode, and a great improvement is shortly expected near the junction with Dyer's lode. The dressing-floors are being enlarged, and extra dressing machinery prepared; for, although the lodes at the present shallow depth are not rich, the whole of the work is worth putting through the stamps; and while they are promising for improvement, by extending on their course, their size, regularity, and character, give good reason for anticipating great results at a deeper level.

At NORTH TRESKERRY they show a good profit on the two months' workings, and they are discovering twice as much ore as they are taking away.

At NORTH FRANCES a good discovery has taken place near Hunt's shaft; the lode is producing flocks of copper ore, and has every appearance of becoming a productive one in a few fathoms further driving.

NEW CROW HILL.—The ground in the shaft is not so favourable for sinking as it was, but the difference is not very great; it is now down 6½ fms. below the 55. We have cut kilns in driving north the 55, and believe we are through the lode, but purpose driving a little further to prove this point; the north part is the best; about 1 ft. of that is loose, sandy, fine stuff, containing spar, mangle, and a fair quantity of lead, which is solid cubes or oblongs, from a very small size to that of a marble, which we can, we think, dress without stamping; and another part of the lode north, for about 2 or 3 ft., is better than the rest, but the lode altogether is 24 ft. wide. The lode in the 15 is the same as before reported, yielding fair stuff for the stamps.

EAGLEBROOK.—The lode in the winze, sinking below the 10, is still a rich course of lead. The lode in the 20, coming up under the winze, is also improving, at the present time yielding fine stones of lead ore.

NORTH DOWNS continues to open up one of the most productive mines in the county. The next sampling will be about 290 tons, 80 tons of which being raised from the ends and winzes, 130 tons more at a tribute of 1s. 6d. in 11, and the remainder at 8s. 6d. in 12. This tells its own tale. The 50 ends continue to open splendid ore ground; and if the ore is not in the 60 (of which there is no doubt), shares must have a rapid rise. The next dividend will be an advance on the last, besides considerably increasing the balance in hand.

NORTH FRANCES, which immediately adjoins West Basset, is much improved. The 57 or bottom level is yielding large stones of very rich grey and black ores. This will in all probability lead to one of those great discoveries which characterize the mines adjoining. West Basset first cut their great course of ores at about the same depth.

HERWARD UNITED.—There is a great improvement in these mines in the last month; two or three promising east and west veins have been cut in the western ground, each having good lead ore. The mines are also looking well in the eastern part of the set in the deepest workings. Twenty tons of lead ore are sampled for the sale on Thursday next.

NORTH ROBERT.—Samples have been taken from the tin lode, which prove very satisfactory: every 100 sacks produce 6 cwt. of black tin. The mine is altogether much improved, and will, no doubt, work at a profit. It is reported that the dues are to be given up until a dividend is declared. This ought to be done more frequently, to assist the shareholders who incur such heavy outlays.

WHEAL EDWARD.—The discovery of a new south lode is likely to prove an important feature in the future prospects of this mine. The cross-cut driving on the cross-course will intersect the lode in about a fortnight or three weeks, and will take the lode in the parallel ground, in which the north and south lode has returned so much ore. The general prospects of the mine have considerably improved, and it is estimated, from present appearances, that a balance of 400s. or 500s. profit will be carried over at the next meeting. The whole of the western ends are looking remarkably well, more particularly the 51, the bottom level, where they have come into a fine course of ore. In the back of the 71 the lode is worth from 4 to 5 tons of ore per fm.; and the winze below the 61, to meet this rise, is now worth fully 5 tons per fm. In fact, the mine is looking better than any in the Calstock district.

MINING IN THE ASHBURTON DISTRICT.—The Smith's Wood and Sigford Consols Mines have been inspected by the managing director (Mr. Whitton Arandell), and his reports are certainly of a most encouraging character. The wheel-pit at Smith's Wood is entirely completed, and is a most creditable piece of work; and owing to the large quantity of stone got out in excavating it, the necessary buildings have been erected at a much less cost than would have been the case had it been necessary to carry the material from a distance. The great tin lode has been opened on into the hill. From the enormous size of the lode, it was very necessary to open on it by removing the overlying rock and earth, indeed to work it very much in the way a quarry is worked. The lode still continues its great width, and the ore of the same rich quality. A vast quantity of rich tin ore is now and will be raised from this point, as the entire workings are confined to taking down the lode, the whole of which contains tin. Concerning Sigford Consols, he says:—"The recent workings on these tin lodes confirm my opinion that they will certainly produce an equal source of wealth to the shareholders in this company as they are in the sister mine, Smith's Wood." Mr. John Parkinson, of the Temple, an adventurer in both mines, under date Sept. 5, writes:—"I enclose you copies of reports on Sigford Consols and Smith's Wood Mines, which I have, however, seen since their publication. I can fully corroborate all that has been said. The south tin lode has been opened upwards of 12 ft. without finding the north wall; and it is very evident that this and the north tin lode, from which it is now distant about 12 fms., unite as

they get into the hill; as it is, the lode—24 ft. wide in one, and 12 ft. in the other—is a sight which may fairly challenge England to produce its equal. These lodes will have 50 to 60 fms. of backs above the levels on which they are driven; and it will be years before we shall require any other aid than the water-power, which is on a high enough level as to be able to drive the 40—wheels in succession.

NANTHOS AND PENRHW.—The lode in the 30, at Bwlchgwm, has considerably improved, being now worth 10 to 12 cwt. per fm.

MOUNT PLEASANT LEAD MINE (Mold).—Such has been the success attending the working of this mine that dividends amounting to 32s. per share have been paid during the last three months, and we understand the prospects are as good as ever.

GAWTON.—A considerable improvement has taken place in the 50. In cutting through the lode in the 36 they have had a large influx of water, which for the present has overpowered the machinery. The necessary arrangements are being made to overcome this difficulty. With this exception the mine never looked so cheering.

PENHALDAVA.—In the adit cross-cut a canter lode has been intersected, composed of lead, blende, flookan, and mangle; a very kindly lode.

GREAT CRINIS.—The lode in the 100 west is being carried for 7 feet wide, ore throughout, with a leader of ore on the north part 1½ ft. wide; good work for copper. The new shaft (sinking on the north lode) is down about 119 fms., and the 120 will be reached, and the lode cut, in about a fortnight. The water is flowing strongly from the wall, which indicates a lode of an open porous character. The cutting into the lode in the 120 will be an object of interest, as by the dip of the improvement in the 100 west it will reach the shaft at about the 180 fm. level.

PROSPER UNITED.—Last week a very trifling accident happened at Louisa's engine-shaft, through the parting of the bucket-rod, but it was quickly repaired, and the engine at work again in a few hours. It cannot be expected that the mine could be drained without some trifling hindrances. The engines are working as well as any engines can work, and are burning only 48 cwt. of coal in 24 hours. The new shaft on Marchion's lode is down 16½ fms., and is yielding some very good ore.

OLD TOLGUS.—The lode in the 52 is 2½ ft. wide, composed of mangle, quartz, and stones of copper ore. In the 42 the lode is 2 ft. wide, yielding stones of good quality copper ore, and letting out much water, with every prospect of improvement. In the 32 the lode is 15 in. wide, composed of mangle, blende, and copper ore.

CUDRA.—At the last taking down of the lode in the 60 west it was 6 ft. wide, worth 10 cwt. of tin per 100 sacks. In the stop west of Walker's shaft the lode is 2½ ft. wide, and also worth 10 cwt. of tin per 100 sacks. In the other three stops, in the 60, the lode will average 7 ft. wide, and is worth 2 cwt. of tin per 100 sacks. The machinery is in good working order, and the dressing and burning of tin is being continued daily. Monthly sales of tin will take place from this time. There is every prospect of this property becoming permanently remunerative.

SOUTH WHEAL FRANCES AND WEST WHEAL BASSET.—(From a Correspondent).—It is much to be regretted that this annoying and very expensive dispute should continue to absorb the funds which would otherwise be available for dividends to the shareholders. Concerning the feelings of the adventurers in South Frances, we have not had the opportunity of learning much; but as to the feeling of West Basset adventurers, we can affirm that there are far more desirous to admit that they were wrong than to continue the hopeless dispute; yet the persistence of the few compels the West Basset adventurers to incur continued and enormous expenses. It seems so certain that the South Frances adventurers have right on their side, that all who give the subject their serious consideration must conclude that by going on with the appeal in the House of Lords further loss must be incurred by the West Basset.

OUR MINERAL WEALTH.—That the progress made in the development of our mineral wealth is continual and highly satisfactory, we have ever contended, and it is now incontestably proved, that each year the working of mines presents a greater inducement to capitalists to embark in them, and, at the same time, that the amount of profits are every year greater. It is difficult to find a more certain proof of the increased profits of mining than that which is afforded by the improvement which has taken place in the amount paid for income tax. We regard this as a proper basis for calculation, because, inasmuch as the tax is only paid upon actual profits (and not always, probably, upon the whole of the profits), it cannot be objected that it may happen that returns have been obtained as a cost, which leaves no profit to the adventurers. As we have seen from the official returns of Mr. R. Hunt, F.R.S., the value of the mineral and metallic products (unmanufactured) of the country is, in round numbers, at 40,000,000l., and the Times of Thursday, comparing the amount of taxable incomes at the time when the income tax was first levied, compared with that of 1860, states that "In 1843 the mines of Great Britain were assessed on an income of 2,081,387l., and in 1860, on 4,015,455l., or very nearly double the former amount. Iron-works were assessed at 559,435l. in 1843, and at 1,517,280l. in 1860—a still greater increase," it follows that the profits derivable from mining equal upon the average about 15 per cent. But to give the precise figures we may state, upon the workings we have named, that 5,532,685l. has been realised upon the working and making marketable of mineral products worth 37,121,318l., and inasmuch as about one-fourth of the mines returning ore and mineral are only in course of development, it may fairly be assumed that the profit is equal to 5,500,000l. upon 30,000,000l., or fully 18 per cent.—an amount of profit which will compete with any other class of industry in the country.

We hear that a "Dialling Goniometer" has been invented, at Freiberg, by Professor A. Junge, which is of great simplicity of construction, but still enabling the dialler to obtain the greatest exactness in his surveys. We shall shortly be enabled to give a detailed description of the apparatus, which, no doubt, will be highly interesting to the mining public.

FOREIGN MINES.

VICTOR EMANUEL.—Miggiandone, Aug. 29: We have shipped from this place to Swansea 85 tons of copper ore. The lode in the end of Thompson's level, which was not looking so well when we wrote last, is again improving for copper ore. No change of importance in any of the other workings.—Baveno: We had a crush of ground in Hey's adit during last week in the back of the level, which had been badly secured by the old men, and at a point where they had gone, as it appears now, through a decomposed mass of ground; all has, however, been again secured, and the driving of the adit is being continued. A tackle has been hung over the old winze in the Baveno level, and we shall soon see how the lode looks at this point in the bottom of the level. We are happy to inform you that we discovered last week, when examining the lode near the shaft of the Minera Vecchia, a splendid lode of very rich ore left standing by the old miners on one side of the shaft, which they sunk on the lode, and which is now full of water. The lode at this point, as far as we can see it above the water, is now about 8 ft. wide, composed of spar and copper ore, which if dressed would be worth from 16s. to 20s. per ton. We are now actively engaged in preparing everything for getting the water out of this shaft, and we have no doubt of our finding a rich lode in it.

LUSITANIAN.—Aug. 24: Pallal Mine—House Lode: The lode in the 40, west of Oak shaft, is very small and unproductive. The lode in the 30 is 1 ft. wide, composed of flookan and mangle, and is worth 10s. per fm. The lode in the 20, west of the slide, is 6 in. wide, producing stones of mangle and copper ore.—Basto's Lode: The lode in Taylor's shaft, below the 60, is 6 ft. wide, worth 1 ton of ore per fm. The lode in the 60, east of Taylor's shaft, is worth 3 tons per fm. The western end has not been driven since our last. The 60, east of Taylor's shaft, is holed through to the 50, west of River shaft; we have now a part of the lode to take down. In the 50, east of River shaft, the lode is 2½ ft. wide, producing stones of ore. The lode in the 50, west of Taylor's shaft, is worth 1½ ton per fathom. In the 38, west of the same shaft, the lode is worth 1½ ton per fathom. The lode in the 38, east of River shaft, is large, but unproductive. The lode in the 28, east of said shaft, is 4 ft. wide, composed of quartz, spotted with lead. The lode in the 18, east of said shaft, is 4½ ft. wide, composed of quartz, with stones of copper ore and lead. In the adit, east of Pinto's shaft, the lode is 1 ft. wide, composed of flookan, impregnated with lead. The lode in the 8, east of Perez' whim-shaft, is unproductive. The same level, west of Abel's lode, is also unproductive. The lode in the adit, west of Perez' shaft, is 2 ft. wide, worth 1½ ton per fm. In the stopes No. 1, in back of the 50, west of Ernesto's winze, the lode is worth 2 tons per fm. The lode in the stopes No. 2, in back of the 38, west of mark, west of Clondino's winze, is worth 1½ ton per fm. In No. 3 stopes, in back of the 50, east of Taylor's shaft, the lode is worth ¾ ton per fm. The stopes No. 4, in bottom of the 28, west of Clondino's winze, are worth 1 ton per fm. The stopes No. 5, in back of the 38, east of Clondino's winze, are worth 1 ton per fm. In No. 6 stopes, in back of the 50, east of Jackson's winze, are worth 1½ ton per fm. In No. 7 stopes, west of Taylor's shaft, in back of the 50, the lode is worth 2 tons per fm. The lode in the stopes No. 8, in back of the 28, east of Figueroa's rise, is worth ½ ton per fm. In the stopes No. 9, above the adit level, west of Perez' whim-shaft, the lode is worth 1½ ton per fm.—Mill Lode: The lode in the 50, east of River shaft, is 1½ ft. wide, producing 1 ton of ore per fm. In Rodriguez's rise, above the 38, the lode is worth 1 ton per fm. In the 28, east of the Junction winze, the lode is worth 1 ton per fm. In the stopes No. 10, in back of the 18, east of Don's winze, the lode is worth 1½ ton per fathom. In the stopes No. 11, in back of the 38, west of the canter lode, the lode is worth ¾ ton per fm. In the 28, west of the canter lode, the lode is 3 in. wide, producing small but good stones of ore.—Canter Lode: In the west of Taylor's shaft, the lode is split into small branches, and is unproductive.—Great Canter Lode: The lode in the 28, west of slide lode, west of Oak shaft, is 3 feet wide, and poor. In No. 13 stopes, in back of the 20, west of the slide lode, the lode is worth 2 tons per fm. In the stopes No. 12, in back of the same level, west of Oak shaft, the lode is worth ¾ ton per fm.—Ponte Lode: The lode in Laureno's winze, below the adit level, is 1 ft. wide, yielding good stones of ore.

THE MUSEUM OF PRACTICAL GEOLOGY, Jermyn-street, will be re-opened to the public on Tuesday next. During the vacation some important additions have been made to the wall decorations of the hall, consisting of infusid slabs of polished granites, porphyries, marbles, and alabaster, by Mr. Macdonald, of Aberdeen, and Mr. Hall, of Derby. Some of these specimens have never before been employed in the Arts, and deserve the attention of architects.

WORKINGTON HEMATITE IRON-WORKS COMPANY.—At a meeting of shareholders it has been determined to wind-up the concern, and offer the works for sale. There are six furnaces, two of which have never been "blown in," nor the engine attached ever regularly worked.

LEEDS, SEPT. 5.—Greater activity has been manifested in mining transactions; improved rates have in some instances been established, and business is assuming a more favourable aspect:—Brea Consols, 17s. to 18s.; Cornubia, 18s. to 19s.; Craven Moor, 3s. to 4s.; Hebdon Brea, 1s. to 1½; Merryfield, 5s. to 6s.; Nidderdale, 2s. to 2½; North Hales, 10s. to 12s.; North June, 2½ to 3; Wensleydale, 7s. to 8s.; Yorkshire, 10s. to 12s. 6d.—JOHN GLEDHILL and Co.

BIRK.—At Lelant, on Friday, Aug. 30, after a severe illness, Captain JOHN STEVENS, of Praed Consols Mine, aged 64 years, deeply regretted.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, September 6, 1861.

COPPER.		£ s. d.	SHEETS.		Per Ton.
Best selected	... ton	101 0 0	Sheets	8½d.-9½d.
Roast cake	...	98 0 0	Wire	9½d.-
Tin	...	98 0 0	Tubes	10½d.-10½d.
Burra Burra	...	100 0 0	FOREIGN STEEL.		
Copapo	...	96 0 0	Swedish, in kegs (rolled)		
Copper wire	... lb.	0 1 0½	(hammered)		
Ditto tube	...	0 1 1	Ditto, in faggots		
Sheathing & bolts	...	0 0 11	English, Spring		
Bottoms	...	0 0 0	Bessemer's, Engineers/Tool		
Old (Exchange)	...	0 0 9½	Spindle		
IRON.		Per Ton.	QUICKSILVER		7 0 0 p. bottle
Bars, Welsh, in London	...	6 5 0	SPELTZER.		
Ditto, to arrive	...	5 17 6	Foreign		
Nail rods	...	7 0 0	To arrive		
Stafford, in London	...	7 0 0	18 10 0-18 12 6		
Bars ditto	...	7 10 0-8 0 0	SINO.		
Hoops ditto	...	8 10 0	In sheets		
Sheets, single	...	9 0 0-9 10 0	TIN.		
Fig. No. 1, in Wales	...	9 0 0-9 0 0	English, blocks		
Refined metal, ditto	...	9 0 0-9 0 0	Ditto, Bars (in barrels)		
Bars, common, ditto	...	4 0 0-5 0 0	Ditto, Refined		
Ditto, merchant, in Tees	...	6 10 0	Banca		
Ditto, railway, in Wales	...	5 0 0-5 2 6	Straits		
Ditto, Swed., in London	...	10 5 0-11 0 0	TIN-PLATES.		
To arrive	...	10 10 0	IC Charcoal, 1st qua. p. bz.		
Fig. No. 1, in Clyde	...	2 8 0-2 10 0	IX Ditto 1st quality		
Ditto, f.o.b. in Tees	...	—	IX Ditto 2nd quality		
Ditto, f.o.b. in Tees	...	—	IX Ditto 3rd quality		
Staffordshire Forge Pig	...	3 10 0-3 12 6	IX Coke		
Welsh Forge Pig	...	—	IX Ditto		
LEAD.		Per Ton.	Canada plates		
English Pig	...	19 5 0-21 10 0	In London; 20s. less at the works.		
Ditto sheet	...	20 5 0-20 10 0	Yellow Metal Sheathing, p. lb.		
Ditto rod lead	...	22 0 0	Indian Charcoal Pigs		
Ditto white	...	28 10 0-30 0 0	In London		
Ditto patent shot	...	22 10 0-23 0 0	6 12 6-6 15 0		
Spanish	...	18 10 0	At the works, 1s. to 1s. 6d. per box less.		

REMARKS.—The improvement in our market has been hitherto progressive, and has not as yet been checked by any reverse. The tendency in the prices of most metals is still upwards, and speculators are sanguine as to the future prospects of the market generally, though the legitimate demand has increased but little, the business now doing being mostly of a speculative character; the result, however, shows that those who went in for metals at the minimum prices have in many instances been considerable gainers, more especially in spelter and tin, the advance in which has been exceedingly rapid; but, judging from the actual consumption, prices can hardly be expected to go much higher than at present.

COPPER.—In English descriptions a large amount of business is doing, and the price is very firm. Some few parcels of cake and tile in second hands have been sold during the week under price, but smelters and sellers generally are obtaining full rates. Holders of foreign are disinclined to accept current rates—Burra Burra is held for 100l. and upwards; Kapunda, 99l.; Copapo, 96l.; Baltimore, 93l.; Chilli, 90l., in Liverpool. Yellow metal not much enquired for.

IRON.—No actual improvement is manifested in the demand for railway iron, and the price remains as previously quoted—5½ f.o.b. at the works. For merchant bars manufacturers are tolerably well supplied with orders, at prices varying from 5½ to 5½ f.o.b. at the works, and 6½ f.o.b. in London. Staffordshire makers are much in want of orders; they are obliged many of them to work short time, and in some cases not more than three or four days a week. Buyers, taking advantage of the emergencies of manufacturers, are enabled just now to arrange easy terms of purchase, though quotations are nominally the same as before. Swedish bars are slow of sale, some little enquiry exists for smaller sizes, but this is quite insufficient to give a firm tone to the market; parcels are offering, ex ship in the river, at 10l. to 10½ 5s., and 10½ 10s. for arrival. Scotch pigs have fluctuated very slightly during the week, the highest price having been 5½s. 9d. for mixed numbers, since which they are a little easier, business now doing at 5½s. 6d. Shipping brands in quiet demand.

LEAD

many orders, given under the impression of a fall, still remain unexecuted, this circumstance alone warrants us in expecting a continued demand and a lasting improvement, all the more so from the fact that certain Rotterdam houses have not been able to cover sales, which at the time they were made by them were uncovered.

The MINING MARKET has worn a very active appearance since our last, and a large amount of business has been transacted. The improvements in metals, the fine weather, and the cheapness of money, combine, as we expected they would, to add to the buoyancy of the general markets, and to bring numbers of buyers into mines which had been so long depressed. The principal transactions have been in Cook's Kitchen, Copper Hill, East Caradon, East Russell, West Seton, Wheal Seton, East Carn Brea, East Grenville, Carn Camborne, Great Retallack, Marke Valley, North Downs, North Treskerby, West Trevelyan, Providence Mines, West Caradon, Tincroft, Wheal Grenville, Wheal Ludcott, Wheal Margaret, Wheal Unity, Hingston Down, Lady Bertha, South Frances, Tolcarne, West Rose Down, New Treleigh, and several other shares. It will be observed, also, that a good rise has taken place in the price of many shares, owing, in some cases, to improvements and discoveries, and in others to the rise in tin. Copper Hill shares advanced to 120, and leave off 112½ to 117½; the winze below the 50, at the junction of Mitchell's with Paddon's lode, improved to 7 and 8 tons per fm. for 4 fms., then fell off to 4 or 5 tons, and improved again to 10 tons of rich ore, causing fluctuations. The 60, on Paddon's lode, we hear, driving towards the junction, is worth 21½ per fathom; this is 15 fms. behind the winze, and the ore of the same rich character; this will also form a junction with Mitchell's lode, about 2 fms. before getting under the winze, and it will thus be seen there are still good points to come off. East Caradon shares have advanced to 27½, 28½; the 60 east, 25½. The branch in the 60 cross-cut south is cut into about 1 foot wide. An important thing in the mine is that both the 50 and 60 fathom levels east are getting larger and richer. The next sampling will be over 300 tons for the month. Marke Valley, 10 to 10½; the mine continues to look well. Cook's Kitchen shares have advanced to 30, 31; a dividend of 5s. was declared at the meeting. Wheal Seton, 75 to 80; the lode at the 140, we hear, is worth 30½ per fm., and dipping towards the old lode. The shaft is only down to the 140.

Brynford Hall, 21 to 23; Camborne Vean, 1½ to 2½; North Treskerby, 23 to 25; at the meeting the profit on the two months was about 320½, leaving a balance of 660½ in hand. The 57 east is valued at 20½ per fm. for 25 fms. long, and a rise in the back at 40½ per fm. East Carn Brea, 8 to 8½. East Russell shares have improved from 3 to 3½, 3½, and there has been a demand for them. Great South Tolgus, 4 to 4½; Great Wheal Fortune, 12½ to 13; Herodfoot, 34 to 35. South Frances, 120 to 125; at the meeting, on Monday, the accounts showed a profit on the two months of 404½, 7s. 8d., and a dividend of 1½ per share (496½) declared, leaving 1918½, 12s. 6d. in hand. The agents observe that the ends in the mine are not quite so productive for copper ore as on some former occasions, but they make special reference to the discovery of tin of a rich nature in the 134, and the promising appearances—identical with the 134—of the 124, 144, and 154 fm. levels; and should the lode continue productive, the easy nature of the ground will enable the returns of tin to be materially increased. Hingston Down shares have advanced to 3, 3½; the 85 fathom level has further improved to 80½ per fm. Lady Bertha, 16s. to 18s.; Merilyn, 17s. to 19s.; North Dolcoath, 14s. to 16s. North Downs have advanced to 5½, 5½, and in good request. North Miners, 27s. to 29s. Carn Camborne shares have been largely dealt in, and leave off 1½ to 1½; the mine continues to progress in a very satisfactory way; the dressing of the ore has been commenced, and in a fortnight about 20 tons will be sampled. North Robert, 12s. to 14s.; Providence Mines, 38 to 40; Sortridge Consols, 10s. 6d. to 11s. 6d.; South Carn Brea, 2½ to 3; St. Ives Consols, 30 to 31; Stray Park, 27 to 29. Wheal Unity shares have been largely dealt in, and advanced to 21s., 23s. The lode is not yet cut in the 75, but in cutting plat in the 85, at the shaft, the lode has been cut worth 16½ per fathom. Great Retallack shares have also been much in demand, and advanced to 25s., 27s. No alteration at the mine, but we understand pitches have again been set on the blende, and that large quantities will be raised. New Treleigh, 38s. to 40s.; the lode in the 80, east of Carr's shaft, will produce 3 tons of ore per fm.; the winze below the 70 also 3 tons, and the mine looking well. Calvadack shares have advanced to 8½, 9; in demand and scarce. Devon Great Consols have improved to 350, 360. Drake Walls, 18s. to 20s.; the mine has sold 25 tons of tin, which will leave a profit of 500½ on the month's working—10½ tons brought 71½ per ton—14½ tons 67½, 10s. per ton. East Basset, 80 to 85. East Grenville shares have been firm, and leave off 38s. to 40s.; the lode in the shaft is valued at 3 tons of copper ore per fm., and 15½ per fm. for tin. South Caradon Wheal Hooper, 20s. to 22s.; the lode in the engine-shaft is becoming larger, and letting out more water. In the 62 west the ground is harder, but the agent says perfectly analogous to that of the neighbouring mines about the productive lodes; and he expresses a strong opinion that the shoots of ore so frequently met with "are connected with a course of ore of great magnitude;" and the situation of the mine adjoining South Caradon and East Caradon attaches much interest to the progress of the works, which are closely watched in the neighbourhood, as a course of ore would cause a great rise. Tincroft, 5½ to 6½; Trelyon, 14 to 16; West Basset, 16 to 17; Long Lake, 13 to 15; the 48 east is worth 1½ ton of lead per fm., and in easy ground. North Basset shares have advanced to 5½, 6½, and in good demand. A large lot of shares belonging to a deceased estate were sold during the week by auction, after which shares went better. Rosewell Hill and Ransom United, 22s. to 24s.; the lode in the shaft is worth 8½ per fathom. The tribute pitches are much the same as for some months past. Wheal Margaret, 41 to 43; the profit on the quarter ending June last was 930½, 1s. 1d., and after deducting dividend declared of 1½ per share (896½) a balance of 305½, 15s. 11d. was left in hand. West Caradon, 37 to 38. West Frances shares have advanced to 12, 14; West Rose Down, 17 to 19; West Seton, 32½ to 32½; Wheal Arthur, 7s. 6d. to 10s. Wheal Hope, 1 to 1½; the crank of the engine broke this week, and caused a little delay in the works, but it is now all right again. Wheal Crebor, 9s. to 11s. Wheal Grenville shares not so firm, at 30s. to 32s.; Wheal Ludcott, 3 to 3½; Wheal Norris, 37s. to 39s.

Cargill, 14 to 15; at the meeting the accounts showed a balance in hand at the end of the previous quarter of rather more than 500½; this is explained by the fact of only two sales of lead having been credited, instead of three, against the three months' costs. Had the last parcel of lead ore sold been credited as usual—and why it was not is not explained—the accounts would have shown a profit on the quarter of 408½, 2s. 5d., and a balance in hand of 1526½, 13s. 6d.; at the end of last quarter the balance in hand, as before stated, was 1118½, 11s. 1d.; but in the present quarter's costs 35½, 12s. are charged "on account of interest." The costs, altogether, are nearly 1000½ a month, and 230 persons employed. Great Crinnis, 14 to 15; the lode in the 100 is still 7 feet wide, ore throughout, with a leader 1½ ft. wide, good ore; the engine-shaft will be at the 120 in a fortnight, when a good improvement is looked for. Eaglebrook, 11 to 12; there is still a good course of lead ore in sinking the winze from the 10 to the 20, and the 20 end west towards the winze is improving. At Old Tolgus the lode in the 32 west has improved, and the country about the end of a more congenial nature. Pendeen, 5 to 5½; Holmbush, 2 to 2½.

On the Stock Exchange, there has been a brisk enquiry for Mining Shares during the week. The following prices were officially recorded in British Mining Shares:—Devon Great Consols, 350, 352, 350; East Caradon, 25½, 26½; East Wheal Russell, 3½, 3½; Great South Tolgus, 4, North Downs, 5½, 5½, 5½; Providence, 39; West Caradon, 38, 37½, 38; West Basset, 16½; Hingston Down, 34. In Colonial Mining Shares the prices were:—Bon Accord, 1; Great Northern Copper of South Australia, 1½; Port Phillip, 1. In Foreign Mining Shares the prices were:—St. John del Rey, 37, 37½, 38, 38½, 38½, 38½, 39; Cobre Copper, 36½, 35½, 35½; United Mexican, 5½, 5½, 5½, 5½, 5½.

The closing quotations for shares in new undertakings were:—Ocean Marine Insurance, 4½, 5 prem.; Thames and Mersey Marine, 5, 1 prem.; Universal Marine Insurance, 1½, 1 dis.; London and Provincial Marine, par; Oriental and General Marine, 4, 1 prem.; Mercantile Fire, 3, 16 prem.; Commercial Union Fire, par, 1 prem.; East del Rey, 2, 16 prem.

COAL MARKET.—On Monday, the arrivals amounted to 76 ships, and formed with the residue from last week a larger supply of house coal than the market required. The amount of business done was trifling, and without alteration in prices. In Hartley's and manufacturers' the same dullness was apparent. Best house coals, 17s. 6d. to 18s.; seconds, 16s. to 16s. 6d.; Hartley's, 15s. to 16s.; manufacturers', 12s. to 14s. 6d. per ton.

On Wednesday, only 17 ships having come forward, the tone of the market was stronger, and a fair quantity of sales was effected, at fully

Monday's quotations for all descriptions.—On Friday, 48 fresh ships arrived. The market was firm for house coals, at last day's prices. Hartley's and manufacturers' heavy, and slightly lower. South Hetton Wallsend, 18s.; Lambton Wallsend, 17s. 6d.; Braddyl Wallsend, 16s. 9d.; Tees Wallsend, 17s. 3d. per ton. Hartley's, 14s. 6d. to 16s.; manufacturers', 12s. to 14s. 6d. per ton; 18 cargoes unsold; 120 ships at sea.

The importation of coal into London by sea in the month of August was 933 ships, containing 301,505 tons, being an increase on the corresponding month in 1860 of 13,376 tons. The importation of coals into London by railways and canals in the month of August was 123,452 tons, being an increase on the corresponding month in 1860 of 10,660 tons.

LIVERPOOL COAL TRADE.—From the Coal Circular of Messrs. Platt, we learn that the quantity of Cannel, coal, coke, and patent fuel shipped at Liverpool in August was 62,523 tons, and in the corresponding month of last year 64,440 tons, showing a decrease last month of 1917 tons. The total shipments from Jan. to August were 440,504 tons; same period, 1860, 479,338 tons; decrease this year, 38,834 tons. The exports of coal coastwise during August were 8294 tons; same month last year, 14,924 tons; decrease in August, 6630 tons.

At Pool Ticketing, on Thursday, 2968 tons of ore were sold, realising 20,217½. The particulars of the sale were—Average standard, 127½. 8s.; average produce, 7½; average price per ton, 6½. 16s.; quantity of fine copper, 222 tons 15 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore copper.
Aug. 1.....	3778	124 2 0	6	£14 6	£78 10 0
" 8.....	3015	123 13 0	6½	5 10 0	82 8 0
" 22.....	4535	125 4 0	6½	5 15 0	84 13 6
" 29.....	3150	131 14 0	6	5 4 0	81 7 0
Sept. 5.....	2968	127 8 0	7½	6 16 0	91 0 0

Compared with the sale of last week, the advance has been in the standard 8s. 6d., and in the price per ton of ore about 7d. Compared with the corresponding sale of last month, the advance has been in the standard 8½, and in the price per ton of ore about 10s. 6d.

At the Swansea Ticketing, on Tuesday, 2462 tons of ore were sold, realising 36,676½. The particulars of the sale were—Average standard, 105½. 10s.; average produce, 16½; average price per ton, 14½. 18s.; quantity of fine copper, 400 tons 1½ cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore cop.
July 30.....	1071	106 9 6	18½	£15 17 0	£84 10 0
Aug. 13.....	1236	104 0 0	13½	11 13 0	87 8 4
Sept. 3.....	2462	105 10 0	16½	14 18 0	91 13 6

Compared with last sale the advance has been—in the standard, 4½; and in the price per ton of ore about 13s. Compared with the sale on July 30, the advance has been—in the standard 7½, and in the price per ton of ore about 12s. 9d. Of the 2462 tons of copper ore sold on Tuesday, 621 tons were from British mines, which gave an average produce of 8½, and sold at an average standard of 115½, 19s.—8½. 1s. per ton of ore. The remaining 1841 tons were foreign ores, which gave an average produce of 18½, and sold at an average standard of 103½. 17s.—17½. 4s. per ton of ore. On Sept. 17, there will be offered for sale 1910 tons of ore, from Cuba, Berehaven, Cobre, French ore, Great Northern Mining Company of South Australia, Knockmahon, Lochwinnoch, Worthing Regulus, Australian Regulus, Cronebane, Tigrone, &c.

At South Wheal Frances meeting, on Monday, the accounts for June and July showed—Balance last audit, 2010½. 10s. 10d.; copper ore sold, 2588½. 12s. 11d.; tin sold, 1521. 18s. 8d.; old rope sold, 6½. 4758½. 2s. 5d.—Mine cost, merchants' bills, and sundries, 2343½. 9s. 11d.; leaving credit balance, 2414½. 12s. 6d. A dividend of 496½ (11 per share) was declared, and 1918½, 12s. 6d. carried to credit of next account. The subject of nominating a third agent in the room of Capt. Bennett, who had resigned, was introduced. Mr. William Harris, of Pool, stated he considered it was a public duty, before nominating anyone for the situation, that the adventurers should consider how far it was expedient for a regularly accredited agent of that mine to accept the management of other mines without the consent of the adventurers. Capt. Pascoe, the manager of that mine, was a person in whom he had every confidence, but he perceived on looking in Williams's Directory that he was the manager of no less than six different mines, and he felt certain that Capt. Pascoe could not do justice to all of them. Capt. Pascoe said that it was impossible for an agent to do more than he did for South Frances, going underground not less than four days in every week. A rather long and important discussion ensued, and ultimately it was decided that no agent of the mine should for the future undertake any duties connected with other mines without first obtaining the written consent of the adventurers or their Chairman. Capt. Pope was elected an agent in the place of Capt. Bennett. Mr. Broad stated that he regretted to have to inform the adventurers that no decision had been yet come to in the law proceedings between them and West Basset, nor could anything be decided until the next meeting of Parliament, the appeal having been carried into the House of Lords, but the committee felt morally certain that the decision would be in their favour, as it had been on previous occasions.

At the New Birch Tor and Vifiter Consols Mine general meeting, on Tuesday (Mr. Joseph Procter in the chair), the accounts were audited, and a dividend of 1s. per share declared. The report is among the Mining Correspondence.

At Cargill Mine meeting, on Monday, the accounts for the three months ending June showed—Balance last audit, 1118½. 11s. 1d.; ore sold, 2387½. 13s. 7d.—3531½. 3s. 8d.—Mine cost, merchants' bills, and sundries, 2891½. 10s. 2d., leaving credit balance, 609½. 13s. 6d. The profit on the three months' working was about 400½.

At Ballewidene Mine meeting, on August 27, the accounts showed—Wages, April, May, and June, 2805½. 12s.; coal, 527 tons 7 cwt., 333½. 8s.; carriage, 156½. 10s. 7d.; merchants, 227½. 10s. 10d.; dues, lord's and bounds, 127½. 6s. 11d.—4349½. 10s. 7d.—Tin sold, 4205½. 10s. 10d.; old iron, 9½. 6d.—leaving balance of 135½. 1s. 3d.; add, charged on account of the new engine, &c., 600½, making together 735½. 1s. 3d. A call of 10s. per share was made, to be paid immediately, and two other calls, one at 1½. 6s. 10d. (amount, 1757½. 11s. 8d.), the other 1½. 6s. 9½d. per share (amount, 1754½. 17s. 1d.), to be paid on Dec. 31, and the last on March 31 next, making together 4167½. 10s. 6d.; the difference, 1s. 10d., to be charged to next account.

At Grambler and St. Aubyn Mines meeting, on Tuesday, the accounts showed—Labour cost for June and July, 497½. 9s. 10d.; merchants' bills, 1521. 9s. 4d.—492½. 12s. 2d.—By copper ore sold, 2521. 15s. 3d.; showing a loss on the two months' working of 397½. 5s. 11d.—less balance in hand last audit, 100½. 6s. 6d.—397½. 5s. 5d.—By call, 486½, carrying to next account, 188½. 14s. 7d. The report is among the Mining Correspondence.

At the Clifford Amalgamated Mines meeting, on Aug. 30, the proposition for amalgamating United Mines and Wheal Clifford and Consols (referred to in the Mining Journal of July 30) was finally confirmed. Each Wheal Clifford share will represent one Clifford Amalgamated share; and each United Mines share will represent one Clifford Amalgamated share. The mines will henceforth be conducted by a honorary committee, consisting of Messrs. W. Williams, F. M. Williams, R. Davey, H. Grylls, R. Lanyon, E. H. Hawke, and R. B. Broad. The committee will be open to adventurers on account days. Capt. John Richards is to be manager; Messrs. W. Williams and R. Davey are to be the committee, to endorse all bills and sign all cheques, and Mr. E. Sims cashier, under them; and the Cornish Bank at Redruth to be the bankers. The parties who have relinquished the 20 shares in United Mines will be offered 35s. per share, payable in two years, and subject to the deduction of all costs to time of relinquishment. In case of refusal they will be required to send an agent within 10 days, that the material may be valued.

At the North Treskerby Mine meeting, on Tuesday (Mr. Matthews in the chair), the accounts showed a credit balance of 629½. 17s. 1d. Details elsewhere.

At Scorrer Consols meeting, on Aug. 29 (Mr. Timothy Painter in the chair), the accounts for the quarter ending July showed a debit balance of 397½. 8s. 2d. A call of 10s. per share was made, being about 4s. per share division of cost, and the remaining 6s. per share for the further prosecution of the mine. The manner in which the calls were responded to gave much satisfaction, the arrears being 70½ only. This mine is being vigorously prosecuted, and now that the machinery at surface is nearly completed good results may be looked forward to, from the good situation of the mine; and the agents concluded their report by saying, from what they have already seen of the mine at a shallow depth, they have no doubt the shareholders will be rewarded for their outlay.

At Praed Consols Mine meeting, on Aug. 30, the accounts showed a debit balance of 632½; and a call was made of 13s. 3d. per share. Shares were relinquished by Mr. James Hollow and Messrs. Davey.

At the West Sharp Tor Mine meeting, on Wednesday, the accounts for May, June, and July showed a cash balance of 324½. 12s. 7d. in favour of adventurers, and there are arrears of calls amounting to 168½; but the merchants' bills for May, June, and July, amounting to 258½. 4s. 1d., remain unpaid. A call of 2½ per share was made. Capt. W. Richards "estimated the cost to carry out the operations in view about the same as during the past quarter; but we shall have to make some necessary alteration in the pitwork before another meeting, the castings for which will cost about 70½."

At Lower Taldrws Slate Company meeting, yesterday, the accounts to June 30 showed a balance in hand of 528½. 6s. 3d. Of the nominal capital of 25,000, nearly four-fifths have been subscribed. For the transfer of the property to the company 8104½. 17s. 10d. has been paid, and 8646½. 16s. 9d. has been expended upon plant. The preliminary expenses amounted to 1886½. 7s. 3d. The directors reported that the upper rock, which it was thought would yield a considerable quantity of slates, has turned out jointly and disturbed, and although the slates made from it are of the best quality, the number is limited, not exceeding 10 or 12 tons; the indications, however, are as good as could reasonably be expected. More time and means are required to develop the Cloddaf-Coed vein, the richness of which in the company's property is not doubted.

Mines.	Tons.	Price per ton.	Purchasers.
Newtownards	75	£11 3 0	Sims, Williams, & Co.
East Loggias	60	11 1 0	Panther Co.
Glofach	60	11 8 6	Sims, Williams, & Co.
Cwmystwith	60	11 6 6	Walker, Parker, & Co.
ditto	60	11 6 6	ditto
Isle of Man Mining Company	100	20 18 6	Walker, Parker, & Co.
Miners	90	11 12 6	Newton, Keates, & Co.
ditto	90	11 11 0	ditto
ditto	75	11 11 0	Walker, Parker, & Co.
ditto	85	11 15 0	Adam Eyton.
ditto	37½	11 17 6	ditto
ditto	37½	11 17 6	Locke, Blackett, & Co.
Llanfair	22	22 8 0	Sims, Williams, & Co.

Mines.	Tons.	Price per ton.	Purchasers.
Priddy Wood	2 0 3 11	£23 0 0	£128 13 5
ditto	0 3 1 9	47 0 0	7 16 0
Fowey Consols	0 8 2 22	63 0 0	27 7 11
ditto	0 0 2 24	47 0 0	1 13 7
Par Consols	69 1 1 16	65 0 0	4489 10 4
W. Fowey Cons.	49 12 3 8	65 0 0	3226 13 3
St. Day United	29 15 3 18	58 0 0	1738 2 9—Trehellan.
Gurlyn	7 0 3 5	65 5 0	466 7 6—Chyandour.
Drake Walls	10 10 0 0	71 0 0	—J. G. Tytle.
ditto	14 10 0 0	67 10 0	—Michell & Co.
Gt. Wh. Busy	16 5 1 23	63 0 0	1025 3 1—Bischoe Co.
ditto	0 15 0 5	60 0 0	45 2 8—ditto
ditto	2 7 3 2	45 2 8	107 9 6—ditto

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cobre	76	13	£11 0 0	Springbok	18	37	£23 1 0
ditto	75	13½	11 8 0	ditto	2	32	28 13 0
ditto	57	13½	11 5 0	ditto	40	26½	24 3 0
ditto	55	22½	20 8 0	Wheal Maria	37	25½	23 10 0
ditto	53	22½	19 7 6	Cuba	105	123½	11 4 0
ditto	11	60½	54 18 0	ditto	54	204½	19 7 6
ditto	1	25	23 10 0	ditto	52	21	19 7 6
ditto	36	13	11 7 6	ditto	4	23½	20 10 0
ditto	82	13½	11 7 6	ditto	27	19½	18 8 0
ditto	73	13½	11 6 0	Knockmahon	100	5	4 5 0
ditto	88	13½	11 5 0	Del Soto	53	17½	15 19 0
ditto	80	13½	11 6 0	ditto	44	17½	15 19 0
ditto	78	13½	11 6 0	Laxey	91	6½	5 11 0
ditto	48	23	20 17 0	Garrucha	47	6½	5 10 0
ditto	43	23	20 3 0	ditto	21	5½	4 5 0
ditto	9	53½	47 3 6	ditto	15	18½	16 13 0
ditto	7	53½	46 17 6	ditto	1	41½	37 8 0
Berehaven	128	10½	9 15 0	Spanish	38	12	11 1 6
ditto	80	10½	9 11 0	ditto	2	35	30 10 0
ditto	103	13	9 15 0	Lochwinnoch	22	35½	3 12 6
ditto	84	35½	8 14 0	ditto	13	25	19 18 0
Ookip	50	34½	31 19 0	Eng. & Cann.	30	22	19 18 0
ditto	49	34	31 17 0	Turkish	25	11½	10 1 6
ditto	46	34	31 15 0	African	15	16	14 10 0
ditto	61	34½	32 10 0	Spanish	5	5½	4 6 0
Springbok	68	27	24 16 0				

TOTAL PRODUCE.									
Cobre	932	£13,387	5	6	Laxey	91	£505	1	0
Berehaven	395	3,952	16	0	Garrucha	84	734	18	0
Ookip	206	6,600	10	0	Spanish	40	481	17	0
Springbok	128	3,169	12	0	Lochwinnoch	35	115	17	6
Wheal Marie	37	869	10	0	English and Canns.	30	597	0	0
Knockmahon	37	3,808	11	0	Turkish	25	351	17	0
Del Soto	100	425	0	0	African	15	217	10	0
Del Soto	53	1,547	3	0	Spanish	5	21	10	0

COMPANIES BY WHOM THE ORES WERE PURCHASED.		
Copper Miners' Company.....	311½.....	£2019 11 6
Freeman and Co.	109.....	2376 6 0
P. Grenfell and Sons	461.....	7402 6 0
Sims, Williams, Nevill, and Co.	135.....	3644 8 0
Vivian and Sons	789.....	7934 10 0
Williams, Foster, and Co.	412.....	6838 16 0
Mines Royal Company	78½.....	885 1 0
Mason and Elkington	54.....	1076 17 6
F. Bankart	35.....	115 17 6
Sweetland, Tuttle, and Co.	110.....	1383 5 0
Total	2462	£38,676 18 6
Copper Ores for sale at Swansea, Sept. 17.—Cuba 93, 86, 77, 8, 8, 95, 93, 90, 11— Bercharven 128, 121, 102, 79—Cobre 101, 93, 16, 9—French ore 100, 100—Great Northern Mining Company of South Australia 49, 48, 39—Spanish 52, 48, 4, 1—1—Knockmabon 99—Lochwinnoch 64, 32—Worthling Rurgus 23—Australian 12—6—Chilt ore 5—Chilt regul 2—Cronaneb 2, 1—Tigrony 2, 1—Phaalx regul 2.—Total, 1910 tons.		

THE EAST DEL REY MINING COMPANY (LIMITED).

PROVINCE OF MINAS GERAES, BRAZIL.
Capital £75,000, in 25,000 shares of £3 each; £1 paid.
To be incorporated under Limited Liability.

DIRECTORS.
JOHN ADDIS, Esq., Corn Exchange.
RICHARD THORNTON BROWN, Esq., 4, Adam's-court, Old Broad-street.
JOHN FISHER, Esq., 61, Eaton-square.
THOMAS WINGATE HENDERSON, Esq., Roke Manor, Romsey, Hants.
EDWARD HUGGINS, Esq., Broad-street, Golden-square.
BANKERS—The Union Bank of London.
BROKERS—Messrs. Hill, Fawcett, and Hill.
TEMPORARY OFFICES,—29, THREADNEEDLE STREET.

The object of the present undertaking is to develop an extensive mineral property, which has been acquired by this company, in that district of Brazil where the mines of the St. John del Rey Company are situated. The estate is three miles long by about 1½ mile in breadth, and the lodes are in every respect similar in formation and character to those of the celebrated Morro Velho Mine. The facilities for working them are, however, much greater, and the outlay required to bring them into a profitable state comparatively small.

The property has been ceded to this company under an agreement for a lease for fifty years; and the purchase of the buildings, stamping machinery, and water-wheels, in fact the whole mining plant, has been effected for the sum of £2500, and this, with the exception of a royalty of 3 per cent. on the gold, is all that the company will be called upon to pay for the property until after the shareholders shall have received £10,000 in dividends, then a sum of £10,000 has to be paid to the grantor, and a second and final £10,000 after £20,000 has been received in dividends by the proprietors, so that the sum of £2500 is all which will be paid on account of the purchase until the mines shall have returned very considerable dividends.

The estate has been carefully surveyed by Capt. William Treloar, whose report can be obtained at the offices of the company; and from this it would appear that, from the great magnitude of the many lodes on the estate, the favourable indications presented at surface, the advantages it offers for facility and economy in working, the great water-power, and the favourable position for obtaining native labour and supplies, the success of the East del Rey Mining Company can scarcely be doubted.

It is proposed to carry out the recommendations of Capt. Treloar as to working the Esty and Capto Mines simultaneously, and also to follow his suggestions as regards the application of the water-power, and to complete the deep adit level, which is already half executed, so that during the development of the former mine the latter may, by its returns of gold, contribute to assist the necessary outlay.

The directors are desirous of calling attention to the fact that this company forms an exception to mining undertakings generally, as it assumes more the character of a commercial enterprise than a mining adventure; and following the successful example of the St. John del Rey Company, it in a great measure relies for a large produce, not on a discovery of gold veins or bunches, but on the application of a vast mechanical power on auriferous lodes already laid bare, and many of them profitably worked upon for upwards of a century. And while it is probable that very large returns may accrue from the small portion of the capital now raised, it is not contemplated that, under any circumstances, more than £50,000 will be required to produce most favourable results, so that any such success as the St. John del Rey Company has met with would yield enormous dividends upon the outlay; the capital of that company bearing a market value of nearly £400,000, and the returns of gold during the last months being at the rate of upwards of £180,000 per annum.

The directors have secured the services of Capt. William Treloar as superintendent and principal mining captain, whose twenty years' residence in Brazil, eight years of which have been in the employ of the St. John del Rey Company, render him peculiarly qualified to fill the appointment.

A very large portion of the capital has already been subscribed. Prospectuses and forms of application for the remaining shares may be obtained of Messrs. HILL, FAWCETT, and HILL, 29, Threadneedle-street, the brokers of the company; or of the solicitor, W. W. FISHER, Esq., 3, King-street, Cheap-side; or at the temporary offices of the company. The amount of £1 upon each share applied for must be paid to the company's bankers previously to the application being sent in; this sum will be returned if no allotment is made to the applicant.

No application for shares will be received after the 11th inst.—Sept. 5, 1861.

THE VICTORIA SILVER, LEAD, AND ZINC COMPANY (LIMITED).

Capital £30,000, in 3000 shares of £10 each. Fully registered July 15, 1861.

PROVINCIAL DIRECTORS.

ALEXANDER KEILLER, Knt., Gottenburg.
ALEXANDER KEILLER, Jun., Esq., Gottenburg.
REUBEN TURNER, Esq., Tibbington House, Tipton.
WILLIAM WHEELHOUSE, Esq., Boston Spa, Tadcaster, Yorkshire.
JOHN WHITEHEAD, Esq., Boston Spa, Tadcaster, Yorkshire.
EDWARD SHELLEY, Esq., Wolverhampton.
JOHN COX, Esq., Hawthorn Villa, Rainskill, Lancashire.
(With power to increase).

LONDON SOLICITORS—Messrs. Yarborough and Wilkinson, 44, Lincoln's Inn-fields.
CONSULTING ENGINEER—John Darlington, Esq., 26, Gresham-street, London.
BANKERS—Wolverhampton and Staffordshire Banking Company.
SECRETARY—Mr. Edward Shelley, Deansley, Wolverhampton.

The objects of this company are to work a group of mines in Sweden, containing large resources of very rich silver-lead ore, zinc ore, and sulphur ore; and to erect eventually lead and zinc smelting works sufficient to reduce 1000 tons of lead and 3000 tons of zinc per annum.

The mines employ about 50 men at present, but are capable of employing 200 forthwith. They are all open to the day, and the ore is not found in uncertain veins, lodes, strings, &c., as in British mines, but are diffused everywhere, and everywhere to be seen throughout the whole mass of the deposit, the average yield of which is 29 per cent. of zinc, and 6 per cent. of lead, while massive samples give from 40 to 80 per cent. of lead, and from 40 to 60 of zinc. The lead contains an average of 40 ozs. of silver to the ton, and richer samples contain from 40 to 80 ozs. Nearly 20,000 tons of stuff have been broken during the last 21 months, yielding the above average, and the mines are sufficient to yield ample ore for the above intended make for many years to come. The lease is for 60 years.

The mines and the undertaking have been minutely examined, and a report stating the results, and special information on every subject, has been rendered by John Darlington, Esq., to which special attention is hereby called.

The zinc works are intended to be erected at or near Hartlepool, because the ore can be brought there direct. Coals, slack, and clay are cheap, and there is good transit thence by land and sea.

The lead works will be erected at the mines, there being sufficient water-power, free of cost, for blast, crushing, dressing, and other operations.

It is calculated that these objects can be best secured to the extent proposed with a capital of £30,000, applied thus:—£5000 in cash and £5000 in free shares to lesors, £3000 for works in Sweden, £1000 for zinc works, and £15,000 for extension of works and reserved working capital.

The report estimates the profit upon lead at £14 7s. 9d. per ton, the silver alone being eight guineas; and upon zinc £5 2s. 10d. It is believed that from 10 to 15 per cent. profits will be made the first year, and when the works are in full operation from 30 to 50 per cent. per annum: 10 per cent. upon the capital paid up will first be given out of profits to shareholders, and the remainder will be given—two-thirds to the shareholders and one-third to lesors. It is intended to begin lead smelting as soon as sufficient capital is subscribed, a large quantity of ore being nearly ready for the furnace.

Sweden is two days' sail direct from England. It possesses a high degree of civilisation, and its institutions, civil and religious, are similar to our own. It supplies very superior labour and materials at a cheap rate, and the men are sober, industrious, and trustworthy. Two of the directors are, perhaps, the most able and enterprising men in Sweden, whose interest it is to secure the largest success possible.

The report sums up thus as to the prospects of profits:—1. From the antiquity of the mines and large extent of excavations made by the ancients, implying that they were profitably worked during an extended period.—2. The almost entire absence of water in the various workings.—3. The large quantity of surface water which exists for driving all kinds of machinery.—4. The cheapness and quality of labour obtainable.—5. The cheapness with which the ground can be broken.—And, lastly, from the unusual magnitude of the deposits, together with the quantities of available ore, and the large amount of stuff broken during the past 10 months (now 21), I am decidedly of opinion that this undertaking comprehends all the elements of success, and with a judicious outlay of money and an intelligent management highly satisfactory profits will be secured.

The plans, maps, and samples of ore may be seen with the secretary, from whom the fullest particulars, the printed report and prospectuses, with forms of application for shares, can be had.

Immediate applications are necessary, as it is not intended to keep the share list open more than three weeks or a month.

THE WEST MERLYN MINING COMPANY (LIMITED).

FLINTSHIRE, NORTH WALES.

Capital £2000. In shares of £2 each.

BANKERS—The National Provincial Bank of England (Holywell Branch).

SECRETARY—Mr. E. J. Davies, Holywell.

The capital is divided into 1000 shares of £2 each. £2 10s. per share, to be paid to the bankers previous to the application for the shares, and the residue as required, not exceeding 10s. per share per month.

The company have been established for getting, raising, and vending, by themselves, or by their sub-lessees, or agents, the lead ore under 124 acres of land, in the parish of Whitford, in the county of Flint, by virtue of a lease granted by the Marquis of Westminster, for a term of twenty-one years from the 15th November, 1860, at the royalty of 20s. per ton.

The mines are distant about three miles from Holywell, and are called the West Merlyn Mines.

Attached to the mines are an office and store-room recently erected, and a smith and carpenter's shop, and there are on the premises, tools and implements for prosecuting the works. The lease, buildings, and plant, have been purchased for £600, £300 of which only will have to be paid, as the vendors have agreed to take the other £300 in paid-up shares, so that, with that exception, the whole subscribed capital will be employed in forming the company and developing the mines.

The sett is supposed to contain the Orsedd, the Tymaen, and the Lloc, the Merlyn, and the two Holloway lodes, some of which have been partially worked, and proved very successful; and there is every reason to believe that large quantities of lead may be obtained at a very moderate outlay by economical and skilful management.

From the Holloway and parallel lodes, at a depth of twenty-five yards from the surface, about 10 tons of lead were sold on the ticketing-day at Holywell, on the 8th of August, 1861, at £12 10s. 6d. per ton. At this sale, 376 tons of lead were disposed of, and that from the West Merlyn Mine fetched a higher price than any of the rest, except a small lot of 3 tons.

Each shareholder can in no event become liable beyond the amount of his shares. Application for shares may be made in the form annexed, addressed to the secretary, Mr. E. J. DAVIES, Flintshire Observer office, Holywell.

THE WEST MERLYN MINING COMPANY (LIMITED).

Capital £2000. Shares, £2 each.

GENTLEMEN,—I request you will allot to me shares of £2 each, of the West Merlyn Mining Company (Limited), on the terms of the annexed prospectus, and I hereby agree to accept the same, or any less number that you may allot to me, and to pay the calls thereon. I have paid your bankers £ deposit thereon, for which I send you their receipt at foot.

To the West Merlyn Mining Company (Limited).

NATIONAL PROVINCIAL BANK OF ENGLAND (HOLYWELL BRANCH).
Received of _____, the sum of £ _____, on account of the West Merlyn Mining Company (Limited).

For the National Provincial Bank of England (Holywell Branch),

THE PROGRESS OF MINING IN 1860, BEING THE SEVENTEENTH ANNUAL REVIEW.

By J. Y. WATSON, F.G.S., Author of the *Compendium of British Mining* (published in 1843), *Criticisms on Mining*, &c.

The SIXTEENTH ANNUAL REVIEW OF MINING PROGRESS appeared in the MINING JOURNAL of December 31, 1859, and January 7, 1860.

A FEW COPIES OF THE REVIEW OF 1859, containing Statistics of the Metal Trade, the Dividends and Percentage Paid by British and Foreign Mining Companies, and the State and Prospects of upwards of 200 Mines. Also a FEW COPIES OF THE REVIEW OF 1858, 1859, and 1860, MAY BE HAD on application at Messrs. WATSON and CUELL'S Mining offices, 1, St. Michael's-alley, Cornhill, London.

Also, STATISTICS OF THE MINING INTEREST. By W. H. CUELL.

WATSON AND CUELL'S MINING CIRCULAR,

published every Thursday morning, price 6d. or 41 1s. per annum, contains Special Reports of Mines, and the Latest Intelligence from the Mining Districts, from an exclusive resident agent; also, Special Recommendations and Advice upon all subjects connected with Mining, and interesting to investors and speculators. A Record of Daily Transactions in the Share Market, Metal Sales, and General Share Lists, &c. Edited by J. Y. WATSON, F.G.S., and published by WATSON and CUELL, 1, St. Michael's-alley, Cornhill.

N.B. Messrs. WATSON and CUELL have made a selection of a few dividend and progressive mines, which they have reason to believe will pay good interest, with a probability, also, of a rise in value, the names and particulars of which will be furnished on application.

INVESTMENTS IN BRITISH MINES.

MR. MURCHISON'S REVIEW OF BRITISH MINING FOR THE QUARTER ENDING 30TH MARCH, 1861, with Particulars of the Principal Dividend and Progressive Mines, Table of the Dividends Paid in the last Five Years, &c., is NOW READY. Price 1s. The Shilling. At 117, Bishopsgate-street Within, London, E.C.

Reliable information and advice will at any time be given on application. Also, COPIES OF "BRITISH MINES CONSIDERED AS AN INVESTMENT." By J. H. MURCHISON, Esq., F.G.S., F.R.S. Pp. 356, boards, price 3s. 6d., by post 4s. See advertisement in another column.

Just published, price 6d., by post 7d.,

COLLIERY EXPLOSIONS, AND A MEANS TO PREVENT THEM.

BY RICHARD HUGH HUGHES.

A pamphlet replete with highly interesting historical narrative, and thoroughly business-like remarks, bearing upon colliery explosions and colliery ventilation.—*Mining Journal*. London: F. Plummer, printer, 21, Great New-street, E.C.; and the Author, Atlas Safety Gas-Fitting Works, Hatton Garden.

Notices to Correspondents.

* Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly ordered on receipt: it then forms an accumulating useful work of reference.

QUESTIONS.—1. The mode of operation adopted at Port Phillip to crush gold quartz, and extract the gold after crushing? How is the amalgamation done?
2. When they crush, or half dry, do they also perform the amalgamation, or do each party dress their own crushings?
3. What is the plan adopted at the Clogau Mine, Dolgelly, said to be cheap and effective?
4. What is the Long Tom and quicksilver cradle, said to do 20 loads per day?
5. Which is the simplest plan of a furnace for calcining quartz?

We forwarded the foregoing communication to Mr. Evan Hopkins, and appended the replies with which he has favoured us.

REPLIES.—1. The quartz is first calcined in kilns, to make it friable. It is then crushed under stamps, and when bruised sufficiently fine is carried therefrom by a running stream of water over blankets, on inclined planes. The free gold is retained by the latter, and is liberated therefrom by dipping the charged blankets in tubs of water, &c. The use of quicksilver is confined to a small product, obtained from the refuse. At Marmato, Putuma, and other gold mines, the whole of the gold is extracted by crushing and washing, without the aid of any amalgamation, even in treating the refuse. The total cost per ton varies from 5s. to 10s., according to the situation, prices of materials, &c.

2. At Clunes, the gold is extracted by the Port Phillip Company, and the product divided—half for the mining company, and half for the reducing company.

3. Nothing regular established as yet but bruising rich specimens and washing out the gold in pans, &c. If large quantities of paying quartz be discovered, stamping mills will be erected.

4. Long Toms, &c., are mere washing troughs, employed to extract gold from alluvial, not adapted for very fine gold obtained by stamping.

5. Common kilns (lime kilns) serve the purpose of roasting quartz. However, roasting the quartz is seldom done; it is not done in any of the gold mines in South America. Often introduced by way of experiment, but no perceptible advantage derived therefrom. It is said they derive benefit by first roasting in Australia. Some kinds of quartz may require roasting.

The simplest and most economical and effective is the mode of extraction adopted at Marmato. None of the late inventions have been found worthy of notice.

NORTH WALES SLATE QUARRIES.—I have been much pleased with the letters on slate quarries, by "Cymro," and am much disappointed at not seeing one in your last week's Journal. I hope he will continue them, as they contain the most valuable information that I have ever seen in print in connection with slate quarries. Whoever "Cymro" is, he is evidently well acquainted with the subject, and has very correctly described some of the most important quarries in North Wales. I know most of them well, and from some of his observations I think I know the man. Be that as it may, I hope he will continue his letters, as there is a considerable district which at present he has not named; and when he has completed his letters I would propose that they be published in a small volume; I would then enter my name as a subscriber for a number of copies, as they would be very valuable to all connected with quarries. I can assure you there is considerable enquiry going on in Wales as to who the author is, and I think he has no reason for keeping his name from publicity.—A NORTH WALES SLATE QUARRY PROPRIETOR.

SIR,—I shall feel obliged if any of your correspondents can inform me where I can find a market for wolfram and tungstate of soda, and what is the market value per ton of each article?—A SUBSCRIBER. *Calstock*.

IMPROVEMENTS IN MINING MACHINERY.—As the subject of a more rapid and economic development of mines is absorbing a considerable amount of attention at the present time, may I be permitted to enquire through the Journal for some details with respect to M. M. Graton and Soumellier's invention, which, according to the French newspapers, is producing such extraordinary results in excavating the tunnel through Mount St. Eloi, I read in the *Patrie* that at the commencement of this great enterprise only the pickaxe and blast were employed, but since the invention above referred to was brought into use the cutting of the rock has been carried on with remarkable celerity. The machines, which are worked by compressed air, are very ingenious. They are each of 250-horse power, and act simultaneously on both sides of the mountain. They set in motion different instruments of great power, which operate in any direction that may be required. The section of the tunnel is about 60 metres, and when the cutting was commenced only 12 men could from the limited space be occupied at each end, the work they did being only 40 centimetres (about 16 inches) per day. But the machines employ a great number of men, cutting out daily 2 metres, 1½ metre at each end. When the excavation is further proceeded with, it is proposed to employ the electric light, so that the men attending the machines may discharge their duties the more efficiently. If any of your readers can afford information upon this subject it would be gladly received.—L. North Wales.

LEASING MINES.—"J. L. V." should apply to a solicitor.

TIN-PLATE WORKS IN FRANCE.—Any correspondent would greatly oblige by forwarding particulars of tin-plate works in France; the information would, doubtless, be interesting to many in this country who may wish to communicate with them.—P. E.

SOUTH DEVON MINING COMPANY.—I can confirm, from personal observation, the remarks of your last week's correspondent, as to the small amount of work going on at the Atlas Mine. His fears of a collapse, if something is not done to introduce a better order of things into the company, are shared by others beside himself. The Atlas Mine represents the entire working of the company, as nothing whatever is being done either at the Phoenix or at the Hercules Mines. We shall open our eyes when too late, I fear, to the management of this company, and shall have reason to regret continuing the unproductive staff, unnecessarily and enormously expensive, taking into consideration the small operations of the company. What the end will be, with other well-known unsuccessful mining adventures present to the mind, I cannot foresee, and fear be erected. Will the management tell us, through you, whether the accounts have been made up for the past twelve months, and, if so, when they will be presented to the shareholders, and the quasi annual meeting held, now two months overdue? I find no fault with the prospects of the Atlas Mine, but with its management. Conscientious economy is absolutely necessary, or the shareholders will never reap the benefit of their investment.—A SHAREHOLDER.

PATENT METALLIC SAFETY-FUSE.—We believe that in every case where this has been used it has perfectly succeeded.

GREAT WHEAL MARTHA.—I wish to ventilate a matter concerning this mine, which I think the shareholders ought to take cognizance of. Upwards of a month ago I sent a certificate for fifty shares to the secretary for registration, and after waiting a week I wrote to ask why my letter had not been acknowledged? To this I received a reply to the effect that the certificate would be sent as soon as the directors met. Well, Sir, I waited another fortnight, and having received no certificate, I again wrote to the secretary, and after the lapse of another week I have this morning received the following reply:—"I will forward you a certificate of your fifty Great Martha shares, as soon as I have them." Now, Sir, I wish you to observe that, though the transfer was sent upwards of a month since, I am only now promised a certificate, and the plea is that the secretary cannot always find directors when he wants them. Verily, if this be the fact, and that our paid directors cannot be got together once a month to transact the business for which they receive remuneration, the sooner steps are taken to relieve them of their unfulfilled duties the better. In my opinion, the secretary ought to acknowledge the receipt of every transfer by return of post, and the directors ought to meet, at least, once a fortnight to sign certificates. Why are they paid, if not to fulfil these and other duties?—A GREAT MARTHA SHAREHOLDER.

THE HAYOD WREID SLATE AND SLAB QUARRY.—Permit me to correct some of the remarks of "Cymro" on this quarry, in your valuable Journal of Aug. 17, under the title of "North Wales Slate Quarries." Your correspondent's assertion, that the material procured out of this quarry "will not split into slates," is contrary to fact. Slates as well as slabs are produced out of it, and many thousands have been sold, and there are houses in the neighbourhood which have been roofed with them; therefore, the reports of the two practical agents from the Penrhyn and Dinorwic (Llanberis) Quarries alluded to are no exaggerations, and contain nothing contrary to "common sense and honesty." It is called by them a slate quarry on the same ground as that on which your correspondent admits it to be a slab quarry, because it yields slabs, and because it does split into slates. Several other practical slate quarry agents have been made up for the past twelve months, and, if so, when they will be presented to the shareholders, and the quasi annual meeting held, now two months overdue? I find no fault with the prospects of the Atlas Mine, but with its management. Conscientious economy is absolutely necessary, or the shareholders will never reap the benefit of their investment.—A SHAREHOLDER.

terous in your correspondent's allusion to "granite" and "marble?" And it is quite apparent he writes from defective information, which, considering his ability as a writer, and the mediatorial position he has taken, it is very important he should avoid. To this, and not to any sinister motive, I attribute the misstatement.—JOHN HUGHES (the Proprietor).

PRACTICAL COAL MINING.—In the Journal of Aug. 31, Mr. Goodwin gives his rules as to "the breakage line, or line to where the subsidence of the surface extends," and in the case of the coal lying at an angle of 15°, he gives the breakage line at an angle of 95° to 100° from the angle of inclination, or rise and dip of the mine. And, again, for mines at an angle of 40°, he gives the breakage line at an angle of 70° to 75°. Now, it is not quite clear which way he means the angle of breakage from the inclination of the strata. You will readily perceive that there is a great difference between the angle counting from ten in the dip, and that counting from ten in the rise. Perhaps Mr. Goodwin will clear up the matter in some future communication.—S.T.W.M., London, Sept. 6.

CASARA MINING COMPANY.—Can any of your correspondents give me any particulars of the late meetings of the Casara Mining Company (Limited)? Fully a year and a half has elapsed since the affair came out with colours flying, and a flourish of trumpets heralding forth a division of profits equal to at least 10 per cent., and that in six months time; and verily the reports issued periodically by the directors did show that the anticipated profit was made, but alas! where is it now? Not into the shareholders' pockets, at all events. I would not have been so much surprised at a dividend not being forthcoming just as soon as promised, as we foolish mortals are generally too sanguine in the affairs of this life, and especially so in mining, but great was my surprise to see one week in the Journal a resolution to lay before a general meeting a proposal to wind-up the company's affairs, and the following week that the proposal had been adopted. What can it all mean? The mine, according to reports, seems productive; and what, then, is the cause of such a movement? Can any better-informed shareholder say? I would also ask whether the promoters absorbed 7000l. of the paid-up capital for the mine or not, as I know the prospectus distinctly stated the one moiety was to be in cash the other in shares?—A SHAREHOLDER.

THE SLATE MOUNTAIN SLATE COMPANY.—I think that it would, in a great measure, facilitate the progress of this company with the investing public if the directors will state what premium is to be paid for the lease under which the property is proposed to be worked. This, I think, is the more necessary, as the capital is stated at 30,000l., while they consider that 10,000l. will be sufficient to work the quarry to a profit.—R.

CINCICUT COMPANY.—In reply to your correspondents on this matter, we have ourselves investigated the company's books and accounts, and found everything highly satisfactory, and in first-rate order. Nearly the whole capital is subscribed, and the company have plenty of money. The works are now commenced, and are being pushed on vigorously. The best opinions that could be got, Evan Evans, William Williams, and a few other men who formerly worked in the quarry, all agree that there is plenty of slate, and the deeper they go the better it will get; and we are in a position to assure you positively that there is no reason of any kind for a shareholder, or shareholders, to be either alarmed or annoyed. We have suggested to the board that when the works are more advanced they should call in another opinion, and publish the report, which, doubtless, they will do. We have troubled you with this letter, thinking you may feel disposed to embody some of our remarks in a notice of your own, as we have several clients who hold shares in the undertaking.—P.S. Two of the largest shareholders joined the board about a month since.—ROSS, LAINSON, and REDFORD: 4, Lombard-street, London, Sept. 6.

WEST TOLVADDER.—In the Journal of Aug. 24 it was stated that the balance (£454,10s. 5d.) of assets over liabilities was against the shareholders, but it should have been in favour of the company.—J. H. DINGLE, purser: *Lodsworth, Aug. 29*.

Now ready, price 6s., or 78 postage stamps, Mr. THOMAS TAPPING on the COLLIERY AND ORE-MINE INSPECTION AND TRUCK ACTS. The work can be had from the *Mining Journal* office, 26, Fleet-street.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, SEPTEMBER 7, 1861.

APPLICATION OF EXCAVATING MACHINERY TO MINING.

Among the virtues, that which has been most largely and continuously exercised by mining is without doubt the virtue of patience. And if the substitution of scientific methods of operation—abridging labour and the expenditure, but not the supply of capital and time—can only be enjoyed by the elimination one after another of the moral attributes of our nature, even those which present to us the least attraction, it were to be desired that every man should continue to dig and delve for himself, and every woman to spin and weave for herself, until the "crack of doom."

But it will be universally admitted, at least by all who have been drawn into the charmed circle of mining adventure, that this time-honoured pursuit, with all its hoary methods, has drawn more needlessly upon this cardinal virtue of the miner than any other among the industries of restless and busy men, that its healthy exercise may be perfectly compatible with a less tardy and more economical and satisfactory system than that which at present prevails; and that under a better regime the attribute in question would run infinitely less risk of degenerating into stolidity.

Ten years ago a palace of crystal, exquisite in all its proportions, and covering 25 acres of ground, rose as by enchantment in Hyde Park in a period of twelve months—it disappeared like an exhalation, and rose again within a few months in yet nobler proportions, and with more graceful lines, from the summit of one of the green slopes of Sydenham; but how many fathoms in the same period of time did that devoted corps of miners sink through that hard elvan course, or drive through that tough granite, every inch of which cost the shareholders a pound of English currency to win? The largest vessel that ever "walked the waters" was planned and laid down, was launched and bestowed the Atlantic, in less time than was occupied by East Caradon, a comparatively shallow mine, in reaching its first deposit of ore. And that same ore had passed the crucible and become current on the Yangtse Kiang, with the imprimatur of his Celestial Majesty, in less time than elapsed between the striking the ore and paying the first half-crown to the grateful shareholders. If such anomalies are remediable, why should they any longer be tolerated? We present the remedy—machinery versus human bone, muscle, and sinew, in the miner's march through the rock; and in advocating this we advocate the miner's truest interest. We have sat side by side with him, the tough end of a tedious drift being *vis-à-vis* to us, or have stood in the midst of a perplexing slide, and have listened with admiration to his forceful reasonings on the probabilities that lay before us, the effect of which has been to leave an impression on our mind as indelible as his anger on the rock, that the less valuable quality of the Cornish miner, great as that is, was his brawny muscle, and that in the hands of such a man "a dead iron devil," to use the quaint patronymic of Thomas Carlyle, would be a pleasure, because its advances would be in some reasonable ratio with his impatient instincts; whereas they are held in cruel check by the dull and monotonous resonance of the hammer and cold chisel.

All experience proves that improvements in methods of manipulation by which the brute force of the human system is economised, and the productiveness of valuable commodities enhanced, travel *pau passu* with the social elevation of men. Let not the working miner, then, imagine that machinery will or can rob him of his occupation. It will, on the contrary, give a new impulse to his mind, a new stimulus to his exertions. The chances of success will be augmented tenfold; and with greater results the demand for his labour and skill will advance in a corresponding degree—and demand is synonymous with a premium upon his labour, now often at a lamentable discount.

But what will be the effect of increased productiveness upon the copper market? At present the producing power of Cornwall is diminishing rapidly, though its poor ores are needed by the smelter to average the feed of his furnaces. The first effect will be to bring up the Cornish production to something like a parity with the foreign districts, and ultimately to cheapen copper in the markets of the world. This will not be to the detriment of the miner or of the mining adventurer, because the cost of producing will be diminished, and bear a more reasonable relation to the results. The cheapening of the commodity will bring it into increased consumption, and thus a more economical and expeditious mode of mining carries with it no insignificant reward—a remuneration for capital, and a premium upon the miner's labour and ingenuity.

Great Britain, next to the favour of Divine Providence, owes half her greatness to her mining resources; they form the foundation of her manufactures, and her manufactures, in their present colossal proportions, are only another name for her greatness and wealth. Nothing, therefore, which can give a new motive-power to her mineral industries in any department is unworthy of attention. Is it capital she lacks?—No. A compartment prevails that it is only necessary to show a reasonable probability of moderate profits to secure the application of any desiderated amount. Contemplate the cool resolution with which a man will commence the sinking of a shaft to win a seam of coal at 500 fathoms from the surface, involving it may be an outlay in shafts, machinery, and drifts of 150,000l., before one farthing in the shape of profits can possibly return to his pocket. Does this look like a want of either capital or enterprise? It is not, then, to be doubted that capital will be forthcoming to adopt an invention so

franght with important advantages as that which the application of machinery for excavating the rock offers to the capitalist, and by which the occupation of the Cornish miner will be assimilated somewhat to the industries of the thousand hives which enrich these islands, and make our country at once the admiration and envy of the Continent and the world.

LOSS OF LIFE AMONGST CORNISH MINERS—No. IX.

Next after bad ventilation, that which causes most distress, and probably most injury, to Cornish miners is the necessity of climbing long ladders. It is not easy to convey to those who have not experienced it an adequate idea of the distressing toil of climbing from a deep mine. Some mines are 300 fathoms deep, and even more. St. Paul's is 340 feet, or not 57 fms. high; a miner has, therefore, to climb more than five times as high as St. Paul's to raise himself from the bottom of one of the deepest mines to the surface, but the labour he undergoes is more severe than that would be, for he has not easy, well ventilated, and lighted staircases by which to mount, but steep, almost vertical, ladders, in close, hot shafts, and must begin his toilsome ascent, after the fatigue of a hard day's work, in poor air, loaded with impurities, and of a tropical heat. No wonder, then, he often reaches grass pale and exhausted, sometimes so completely as to be wholly unable for some time to speak. If the men are so thoughtless, as young miners often are, as to mount the ladders very quickly, the action of the heart is excessively excited, its pulsations are increased to double the natural rate, and not unfrequently spitting of blood is occasioned. When it is recollected that this excessive toil is imposed upon men, many of whom are suffering from a more or less advanced stage of miners' consumption, it will be readily believed that the men are most anxious to be spared the necessity of climbing.

Notwithstanding strenuous efforts to remedy the evil, but little has yet been done. Man-engines to raise and lower miners have been erected for four mines only, in all the rest the old system is continued. When the Royal Polytechnic Society of Cornwall was first established, in 1834, attention was from the very first directed to this subject. Mr. S. C. Fox offered premiums for improvements in the method of ascending and descending mines, and for several years the society afforded constant and substantial assistance towards getting machinery to raise miners introduced, and in 1842 contributed 500*l.* towards the cost of a man-engine for the Tresavean Mine, which was estimated to cost 1670*l.* for 280 fathoms. In 1845 another engine was erected at the United Mines, for about 2000*l.*, and in 1851 one was put down at the Fowey Consols Mines 280 fms. deep.

These engines are modifications of machines previously in use in Germany. The first was erected in 1833, at Zellerfeld, and was made entirely of wood. The second was like it, and erected at the George Wilhelm Mine. The third was for the Zellerfeld Mine, in substitution for the first, and was made of iron and wood; and the fourth was made of iron wire at Andreasbourg. We have no recent reports of the working of these machines abroad, but by the latest received the miners spoke of it with animated gratitude towards its originators. The operation of the English man-engines is very satisfactory, and so long as a large number of men are employed, very profitable; but the fact that, notwithstanding this success, four man-engines only are in use proves that something else is wanted. It is easy to see that the uncertainty of mining is the great impediment to the introduction of machinery of such expensive character. If the continued profitable employment of a large number of men could be securely calculated upon, mine adventurers could prudently erect man-engines whenever the annual saving in cost of labour exceeded the annual interest and cost of working the machines. But as lodes are very uncertain, and as it must always be doubtful how long a mine will be worked, or how many men can be profitably employed, no machine will be generally introduced which cannot either be cheaply constructed or removed from one mine to another without ruinous expense. This is a case in which the cost of first outlay of a machine will be a greater impediment to its use than the cost of working; indeed, it is hardly possible that any machine can be more costly to work than it is to employ human force so wastefully as in climbing ladders.

It was estimated by the Polytechnic Society that at least one-fifth part of the miner's effective force is consumed, not in working, but in getting to and from his work. The loss of time is very great; on an average, at least one hour per day is spent upon the ladders, and in very deep mines much more than this. But the toil of climbing is so severe that one hour of it is more than equal to two hours of ordinary work; if, therefore, miners could be saved from it, they could, without additional fatigue, and with much less injury to their health, do the work of five days in four days. Of this saving the adventurers would immediately receive their share, for both tributers and tummen would offer better terms if their labour, by being spared, was rendered more effective. Assuming that men earn about 60*s.*, and boys about 30*s.* per month, as the proportion of men is two to one, on the average will be about 50*s.* per month, or 30*l.* a year per miner, of which one-fifth at least, or 6*l.* each, is required to pay for the toil of ascending and descending ladders; and if the hour a day now wastefully spent were profitably employed, and the strength exhausted used, either four-fifths of the same number of men would do the same work, or the same number would do one-fourth more work, of course to the mutual profit of both employers and employed.

No doubt some power would be expended, and some coal consumed, to raise miners from the bottom of the shaft; but the cost of this is as nothing compared with the present waste. Say a miner weighs 150 lbs., and has to be raised 100 fathoms once a day, or 312 times a year, the whole year's power would be only about equal to 28,000,000 lbs. lifted 1 foot high, a weight which some of the best pumping-engines will lift by a consumption of a quarter of a bushel of coal. If the mere cost of power were the only difficulty, it would not be worth consideration were it many times as great. It is the first cost of the machine that is the real impediment, and, unless this can be reduced, or a removable apparatus invented, the difficulty is formidable indeed. A similar difficulty has, however, been encountered and overcome in coal mining, and, though the cases are not identical, they are so similar that a modification of the same apparatus may probably suit both cases. To ascend from the deepest Cornish mine by ladders requires two hours of excessive toil; by man-engines about 20 minutes of little fatigue, but of constant attention and some risk. We ascended a coal mine shaft of equal depth in less than one minute, without any exertion or attention of our own, with no consciousness of motion or appearance of danger. It is true that but few men can ascend from a coal pit literally at once, but parties can follow each other so rapidly that with a little arrangement there need be little waiting; nay, it has been proposed to have a continuous chain, with cages attached at regular intervals, resembling a large Jacob's ladder, so that there may be a constant stream of men up and down the shaft at once, with no other interruption than for changing as each cage reaches the top or the bottom. If the cages are lifted up and let down between guide-ropes, with proper brakes to stay their descent in case of the chain breaking, and proper covers to guard against injury from any stone falling down the shaft, the risk of accident is small, and the loss of life by such accidents as cannot be avoided would really be much less, though it might apparently be more, from being more noticed, than is now caused by disease excited or aggravated by the toil of climbing ladders. The very small number of railway accidents in proportion to the number of travellers shows what care can do to render that really safe which appears to be, and without such care would be, exceedingly dangerous.

There seems no good reason why some such apparatus as is in successful operation in coal pits should not be tried in metal mines. There seem no difficulties in its adaptation a clever machinist could not overcome. A common objection is that apparatus suitable for vertical coal shafts would not work in mine shafts which sometimes slope, but it would work in those which are vertical, and it would not be very difficult by guide-ropes to conduct a cradle safely up shafts which are nearly vertical, though, perhaps, not at so high a speed as is common in coal pits, but a lower speed would be of little inconvenience if a continuous succession of cradles follow each other. The saving of time and toil is so great that almost any trouble and expense to accomplish the object would be amply repaid. This is so well understood by coal miners that anyone who proposed to substitute ladders for cages in collieries would be not unnaturally considered insane. Is it not nearly as foolish to continue the use of ladders in copper mines, after experience has proved the infinite superiority of machinery in coal mines? Is there any reason for not at least trying in one class of mines what has been found to answer in the other, except that what are called "practical men" always believe anything to be impracticable they have not themselves done, having no faith in anything beyond the range of their own very narrow experience. It is commonly said that what has been done can be done; but many of this class act as if they did not think so, and it is, we suspect, this feeling that has chiefly prevented a fair trial having been made of raising miners as colliers are raised. Partly it has arisen

from the fear of accidents, which are, indeed, far too common in coal pits. Enquiry, however, shows that they are rare when proper and easily-observed precautions are duly attended to, and no doubt enquiry would prove that more lives are lost from diseases induced or increased by climbing ladders than by accidents from well-constructed cages. But the first kill slowly, and attract little notice; the latter shock the feelings, and are remarked. It is just a parallel case to that of fire-damp in coal pits. As we have already shown, that dreaded enemy to the collier indirectly saves more lives than it directly destroys, by compelling the ventilation of coal pits, which had it not been for fire-damp would, doubtless, have been as badly ventilated as copper mines are, and attended with the like loss of life from miners' consumption, the consequence of bad ventilation. But the excess of deaths from miners' consumption is greater in proportion than all the deaths from colliery accidents put together, of which only about one quarter are from fire-damp explosions. It follows, therefore, that that which is apparently a source of excessive danger is really a cause of safety from a much greater though less evident peril, but that providential result is no reason why we should not gratefully accept the good, and also guard against the drawback of evil. It is to this end we are gradually approaching, as a consequence of the increasing attention paid to the working of coal mines, and of the improvements that that increasing attention brings. When may we hope for the like improvement in copper and tin mine management? Not until public attention can be as strongly called to the misery caused by the insidious progress of disease in metal mines, as it is from time to time by fearful colliery explosions. It shall not be our fault if such miseries remain unnoticed, such wrongs unredressed. It remains to be seen whether Her Majesty's Ministers consider them of sufficient national importance to deserve that notice a Government enquiry alone can secure.

REPORT ON CORNWALL AND DEVONSHIRE.

[FROM OUR CORRESPONDENT IN TREURO.]

SEPT. 4.—In this dull season of the year, when little business is doing to divert men's attention, it is not surprising that Mr. Evan Hopkins's onslaught on Cornish Mining Management should have become a topic of lively discussion. I can scarcely believe that Mr. Hopkins really means all he says in his letter; but, although he may have expressed himself too hastily and unreservedly, I am too much accustomed to the enunciation of similar opinions to be much surprised at them. I frequently meet men who sweepingly condemn the whole system of Cornish mining and engineering, from the condensing-engine downwards, and who are always, like Mr. Hopkins, making unfavourable comparisons between it and the systems in use in the coal and iron districts. I have myself no belief whatever in these opinions. I think the Cornish system is, as a whole, the best system of metallic mining pursued in any part of the world; although I am far from saying that it is by any means perfect, or incapable of improvement, or that there are not points on which Cornishmen may learn from other districts. At the same time, as the question is undoubtedly one of great importance, it seems to me that a temperate and practical discussion on it would be very useful; and, consequently, I shall make no apology for the following observations, which, it must be quite understood, I offer in the best spirit.

As it is at any time utterly useless to attempt to reason on any subject without premises, I shall start with stating a few facts—well-known facts, but still facts which I want your readers thoroughly to bear in mind. When people institute a comparison between Cornish mines—tin mines, for instance—and collieries, they are very apt to forget that the marketable commodity in the case of the colliery is a raw material, tilted from the pit's mouth into the railway trucks; while in the case of the tin mine it is a manufactured article. The 10 or 20 tons of black tin figuring in the sale list may seem insignificant compared with the thousand or two tons of coal, but the one really represents as much work as the other. In some articles in the Journal in November and December last year, I described in detail the produce of the great tin mines at the northern foot of the Carn Brea range in the parishes of Camborne and Illogan. Now, taking three of the leading mines of this range—Dolcoath, Carn Brea, and Tincroft—we find, speaking roughly, that they return about 1600 tons of black tin per annum. Compared with coal or iron mines, this at first sight seems very trifling; but the matter becomes different when we bear in mind that to produce this 1600 tons, 100,000 tons of "work," or tinstuff, has to be broken and drawn from an average depth of 200 fathoms. Two thousand tons of stuff per week, of great hardness, broken and hauled from a depth of 400 yards, is not, after all, such very insignificant work for three mines.

Next, let us see the value of this stuff. When black tin is noted to be selling for 70*l.* or 80*l.* per ton, one can very well fancy a collier or iron miner envying the happy Cornishman who has such rich ore for sale; so different from his produce, where 1*s.* per ton is a matter of great consequence; but, as I have said before, this is really a manufactured article. In my notice of Carn Brea Mine, I showed that the produce of the "work" there was 3½ cwt. of black tin for every 100 sacks, which is equivalent to 1½ per cent.; and I pointed out that this was about the average produce of the tinstuff throughout the county, which thus required 57 tons of stuff to produce 1 ton of marketable black tin. Taking black tin at 60*l.* per ton, the gross value of this tinstuff is consequently but 21*s.* per ton; its net or real value is, however, much less, for we must deduct from this 21*s.* the cost of dressing it so as to make it merchantable. In the case of Carn Brea Mine, which may be taken as a fair average of this county, I showed that this amounted to 6*s.* per ton of "work," so that the net value of the tinstuff at that mine, taking black tin at 60*l.*, was only 15*s.* per ton, which may be taken as the average value of the tinstuff throughout the county. In the case of Dolcoath, the richest tin mine in the county, when I wrote the average produce of the "work" was 5 cwt. per 100 sacks, or 2½ per cent., so that 40 tons of stuff were required to produce 1 ton of saleable ore. With black tin at 60*l.* per ton, the gross value of each ton of stuff at this mine would consequently be 30*s.*; from which, if we deduct the 6*s.* for dressing, we have a net value of 24*s.* per ton. Surely, considering the depth from which the ores are raised, 300 fms., at Dolcoath; their great hardness, 20*l.* or 30*l.* per fm. being given to drive the levels; the irregularity of richness in different parts of the lode, which is an evident impediment to economical working; surely, I say, the system of mining which can produce fine profits under such circumstances, with stuff so comparatively poor, cannot be so miserably bad as it is represented to be. As the Dolcoath tin is worth more than 60*l.* per ton, the ore would consequently now be worth more than 24*s.* per ton. Let us put it at 30*s.* per ton; at this figure is a comparison with Morro Velho, raising stuff worth 36*s.* per ton from a depth of 144 fms., so very disadvantageous to Dolcoath, raising stuff of such a hardness from a depth of 300 fms., and giving such splendid profits? I certainly think not.

Let us take a few more illustrations from the Camborne and Illogan tin mines. At Dolcoath, a mine, let it be remembered, 300 fathoms deep from surface, the average cost of breaking, filling, and landing the stuff is 9*s.* per ton. This is rather heavy, but taking into consideration the depth of the mine and the hardness of the rock, requiring a price of 30*l.* per fathom to drive the lower levels, I think we may look a very long way before we find any place where, under similar circumstances, it is done cheaper. I have certainly never heard of any such.

At Carn Brea, the average cost of breaking and tramping the stuff, at an average depth of from 180 to 200 fathoms, is 5*s.* per ton. At this mine the cost of filling, drawing, and landing, including every item of expense, and allowing for wear and tear, is 1*s.* 3*d.* per ton, the particulars of which can be seen in the Journal of December 15 last. In another paper of the same month the size of the lode, and the cost of driving the different levels, is given, so that the hardness of the ground can also be seen. Allowing for these, I should like to be shown in what mine, in any part of the world, the same work is done for less money.

At Tincroft, the cost of breaking the stuff averages 4*s.* per ton; and at Cook's Kitchen, at a point 220 fathoms from surface, it is broken, trammed 80 or 90 fathoms, and filled, for 5*s.* per ton; out of which the men allow 6*d.* per ton for drawing. At some points in Tincroft, 200 fms. from surface, the tinstuff is broken (including tramping and filling) for 3*s.* 9*d.* per ton. I think these figures show that Cornish miners, even in the richest and most prosperous district in the county, have no bed of roses—no great riches with which they can afford to play loosely and carelessly. I have seen mining in a good many districts, and under a good many phases, but instead of ever being struck with the inferiority of Cornish mining, compared with that of other districts, the contrary has always been the case, and I think must ever be the case with any candid enquirer. In many Cornish mines which are made to pay cost, and even give profits, the wonder often is how it can be managed, and I believe the more anyone knows of well-managed Cornish mines, the more he will appreciate the great thought and skill required in their working. Metallic mining differs

from most other pursuits, inasmuch as it never can be reduced to a perfect system—a constant initiative is also required. In a large mine, no doubt a considerable portion of the work can be reduced to a system, but still the most important part is incapable of being so reduced. A perfect mine manager should consequently be endowed with two classes of gifts rarely combined—he should have that administrative ability of working out details systematically, so important in any large concern; and he should also possess that quickness in initiative in striking out new lines of action—a gift essential to a good miner. One sometimes meet men possessing the administrative gift alone. Such men are frequently very able, and generally particularly strike a stranger with their ability, and the clearness and method of their arrangements; they are men who in a sphere suited to their peculiar abilities, as railway managers, for instance, or at the head of any other large concern requiring merely administrative ability, would be of great value; but wanting a quickness in initiative they fail as mine managers. I know some men of this class in Cornwall, men whose ability and character are beyond doubt, but still whose career has been a complete failure. The general failing of Cornishmen is, however, in the opposite direction. They possess all the element of successful miners in their quickness, but they want system. The result generally is, that when a person accustomed to the management of large concerns, where everything is—as it is capable of being—reduced to a perfect system, looks into the management of some Cornish mines, the first thing that strikes them is the comparative disorder and absence of system in which things are carried on. Accustomed to concerns where system is everything, they are most unfavourably impressed, and form a most unjustly injurious opinion of the management—which really is very good at the bottom, although conducted in rather an erratic manner—a manner, however, well understood by all parties concerned. It would be better, of course, if a more perfect administrative system could be generally introduced. In most of the large mines this is now the case—for the larger a concern gets the more necessity there is for it—and altogether things are much improving in this respect. I have laid considerable stress upon this point, for, from considerable experience, I am satisfied that nothing has created a greater prejudice in many mines against Cornish mine management than a want of any interest in, or, indeed, knowledge about, certain mechanical and other details which in many districts men have at their fingers' end, but which in themselves are no more able to make a good mine manager than a perfect knowledge of the manual and platoon exercise would make a drill sergeant a great general.

As I have said before, I can scarcely believe that Mr. Hopkins seriously means what he has written about Cornish mine management. He must know better than I or anyone else can tell him the unfairness of the comparing a colliery pit with a shaft in a metallic mine. While the latter is sunk for exploration, and may never lead to anything—in a great majority of cases never does lead to anything worth having—the former is sunk for the purpose of laying open what has already been discovered by boring, or neighbouring workings. In the colliery, we know the exact depth at which the beds of coal will be intersected, their thickness, and dip; the approximate quantity of coal they will produce, and the number of years it will take to raise it. In a metallic mine, we do not in the first place know whether we will get any ore at all; or, if we do get it, whether it will be 10 fms. or 300 fms. deep under the shaft we are now sinking, or ½ mile off. All is uncertainty; and when we do get a course of ore none can tell how long it will last, or how far it will justify large expenses. To remedy the faults which are found with Cornish shafts, and the comparatively imperfect systems of drawing stuff which they entail, it would be necessary to sink every trial shaft as if a great mine were assuredly at the bottom of it. Such a notion is, of course, ridiculous; but it may be said that when a rich mine is found new shafts should be sunk, or old ones cut down, so as to get shafts equal to colliery pits. I answer that such is always done where the prospects of the mine justify it; but the expense of such things is so enormous, and the uncertainty attending all metalliferous mines is so great, that prudent managers—first-class men—are very careful about rushing into things of the kind. After all, mining is a business, and not a sentiment. The object is to raise ores to a profit, not to show what wonders engineering skill (carried out regardless of expense) is capable of performing. Railway proprietors have pretty well exhausted that sensation, and their experience is not enticing. There may be some of the original shareholders in the Cornwall Railway who feel a thrill of satisfaction at having contributed to erect such a noble specimen of engineering skill as the Albert Bridge, but I fear the majority would be common-place enough to prefer some interest for their money.

I shall not be tempted into attempting a comparison between Cornish and North Country mining. It would be most unfair to my North Country friends, of whose good sense I have far too high an opinion, to suppose that they are at all inclined to set themselves up as better metallic miners than Cornishmen. I have never met any yet who had such a pretension. In their own sphere of mining—coal and iron—no one doubts their pre-eminence; but metallic mining requires a totally different habit of mind, and is an essentially distinct pursuit.

Cornishmen are being continually attacked as obstinate, mulish, prejudiced, ignorant, &c., because they are not at once prepared to adopt every nostrum which any dreamer or schemer chooses to propose. I never could see this myself; and, on the contrary, think they are quite as ready as any other class—more ready than most other classes—to adopt all real improvements, and to try all plausible suggestions. I am glad to see that what is generally considered an improvement in tin dressing has been lately adopted at Providence Mines, St. Ives, by Capt. William Hollow, jun. It is the Prussian concave round buddle, which differs from the ordinary round buddle in falling inwards from the periphery towards the centre, instead of outwards. The stuff is distributed at the edge by revolving arms, the slime escaping at the centre, by which a much larger area is given for the concentration of the "heads." The present buddle at Providence Mines is 20 feet in diameter, with a 2-foot opening in the centre for the escape of the waste. The fall of the floor, which is continuous from the edge to the centre opening, is 1½ in. per foot. Capt. Hollow gives a first-rate account of its action, as it makes twice as much heads as the ordinary round buddle, and equally good. It may be mentioned, that although this form of buddle is of course well-known in Germany, and has also been described for some years past in English books, yet the one in use at Providence Mines is the independent discovery of Captain Hollow. A similar buddle is, I believe, being erected at Wheal Margaret, and another one is also in course of erection at Providence, with a fall of 1½ in. per foot.

REPORT FROM NORTHUMBERLAND AND DURHAM.

SEPT. 5.—The Coal Trade continues, on the whole, to make satisfactory progress. On the Wear large quantities of coal have been shipped lately, and most of the works there are tolerably brisk. At the extensive works of the Earl of Durham, large stocks from the pits have been shipped, in addition to the regular workings from the mines. In the present depressed state of the markets this hardly appears to be a wise proceeding. The extension of those valuable works still goes on most vigorously. A large quantity of the Hutton seam coal remains on estate, which produces the best house coal. During the summer great activity has been the rule in the shipment of steam-coal from Northumberland also, but this activity has been a little interrupted lately by the want of shipping in the River Tyne, owing to contrary winds, and also by some slight strikes of the workmen at the Beside and other collieries. The summer trade, on the whole, has been very good. As the winter approaches, large stocks of coal are usually laid up for shipment in the spring and summer months. The Long Benton Colliery, near Newcastle, is offered to let from March next, the stock and materials to be taken at a valuation. The Low Main seam is worked at this concern, the High Main seam being tabbed off safely by metal tubbing. The Iron Trade exhibits little improvement, and the absurd strike of the puddlers still continues, much to the injury of the trade, and also to their own injury in the end. It is plain that they would have best consulted their own interests by giving way to the proposed reduction of the masters at the present time, considering the very depressed state of the trade, and when a change occurred for the better, which it is hoped cannot be far off, there could be no difficulty in again recovering the reductions. The prospect for the Consett Iron-Works still continues gloomy in the extreme. Nothing reliable as to the result has as yet transpired, but it is feared that no feasible plan of continuing the works has yet been matured. In the meantime the present stocks are being worked up, and, in connection with the works, the Eden and Delves Collieries are already stopped, and 53 horses and ponies are offered for sale during this week. The Iron Ore Works, at Alston Moor, are to be stopped shortly.

A general meeting of the members of the Northern Institute of Mining Engineers was held to-day, when the principal business before the meeting was the reading of a paper by Mr. S. C. Crone, "On the Seaton Barn Colliery Boiler Explosion." The paper of Mr. Boyd "On the Carboniferous Limestone of Northumberland," was also to be discussed. Further particulars respecting these subjects will be given next week.

Resuming the subject we commenced last week—that of the Education of Working Miners—the first step is the elementary education of children previous to being employed in mines or factories; but if we presume that every one has received a reasonable amount of elementary education previous to commencing work, another great difficulty immediately presents itself. These boys are taken. It is plain that they would have best consulted their own interests by giving way to the proposed reduction of the masters at the present time, considering the very depressed state of the trade, and when a change occurred for the better, which it is hoped cannot be far off, there could be no difficulty in again recovering the reductions. The prospect for the Consett Iron-Works still continues gloomy in the extreme. Nothing reliable as to the result has as yet transpired, but it is feared that no feasible plan of continuing the works has yet been matured. In the meantime the present stocks are being worked up, and, in connection with the works, the Eden and Delves Collieries are already stopped, and 53 horses and ponies are offered for sale during this week. The Iron Ore Works, at Alston Moor, are to be stopped shortly.

...should be in some way instructed after the hours of labour are over. This can only be effected by means of evening schools and the literary institute. If habits of idling and roving are once allowed or acquired, the youth soon relapses into a state of ignorance and barbarism. It is quite common to meet with boys in mines who have learned to read at school, but who have entirely lost this accomplishment. It is no longer necessary that this should be the case—the hours of labour are not so long as formerly, nor is the labour itself near so exhausting. The introduction of ponies for the in-burial of coals has reduced the system of hand-putting to a minimum; and this was by far the most irksome employment in mines, something, indeed, of a debasing or brutalizing tendency was almost inseparable from it. Every boy employed in mines might devote at least two hours four nights per week to some kind of mental improvement. If this is not done, very much more time will be wasted in idleness, or something worse. The period, too, over which this is to be persevered with is comparatively very short, as after they commence as coal hewers the hours of work are so short as to allow of ample time for the improvement of their minds. Young men generally begin the work of hewers at 17 or 18 years of age at present, so that the period of their apprenticeship may be considered as six years at the most. After this time their hours in the mine are limited to eight, so that they have ample time, as we have said before, to improve themselves. Looking at all these points, the raising of the working collier to a respectable scale of intelligence and a moral state can hardly be considered as hopeless. Some system to be commenced with in early youth, and rigidly carried out until the workman has arrived at years of discretion and self-reliance, appears to be the great desideratum. That we are progressing towards this result cannot admit of doubt, but the progress, as we have before remarked, much too slow. The recent Act of Parliament preventing the employment of boys under 12 years of age unless able to read, it is hoped will accelerate the movement, and the more general establishment of day schools for the young, evening schools and literary institutes for the more advanced and for adults, appear to be the means by which this most desirable object is to be accomplished.

On Wednesday a testimonial was presented to Mr. Player, of the Tees Side Blast Furnaces, by the workmen and agents engaged there, the management of which he has resigned in order to accept that of the Norton Blast Furnaces. The presentation was entrusted to Mr. Thomas Hindson, who headed the deputation. Mr. Player was respected both by his employers and the workmen, the latter of whom at all times placed implicit confidence in his opinion as to whether a proposed reduction in wages was necessary or justifiable.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

SEPT. 5.—There is nothing new to be stated in relation to the Iron Trade. The somewhat better demand continues, and pig-iron is selling more freely. Several large sales are reported. In North Staffordshire the puddlers are out at a large number of the works in opposition to the reduction of 6d. per ton in their wages agreed upon by the masters. In one or two cases, however, the reduction has been submitted to. Trade in North Staffordshire has suffered severely from the almost entire stoppage of the commerce to the United States, which was the best customer for the consumption of earthenware, the staple trade of the district.

The Hardware Trades of Birmingham and South Staffordshire are still rather more active, the fine weather causing home orders to be given to a greater extent. It would be a great mistake, however, to suppose that these branches of trade are active, and they hardly can be so whilst America remains so unsettled. The failure of Mr. Alexander Thos. Gordon, railway contractor, of Westminster, is likely to affect some parties in this district. He was a short time ago a purchaser of pig-iron, and several persons in South Staffordshire will lose by him.

The prospectus of the Victoria Silver, Lead, and Zinc Company (Limited) is published, and as it has a local character—the secretary and another director residing in this county—it may not be inappropriately noticed here. The company is to be formed for the purpose of working a mining estate at Stollberg, about five miles north-west of the town of Smedjebacken, Dalecarlia, Sweden. The minerals on the estate are silver, lead, zinc, and sulphur, the latter in the form of pyrites. The proposed capital is 30,000*l.*, in 10*l.* shares. The estate has been surveyed by Mr. John Darlington, 26, Gresham-street, London, who was recommended by Mr. Robert Hunt for the purpose. His report is most favourable. He states that the mines were formerly worked for the Crown, the working being supervised by the ward of Gustavus. The mineral deposits are described as occurring "in a wide metalliferous channel, and not in lodes or veins, as in this country." They are very extensive, the metalliferous channel being 666 yards in length, and from 200 to 400 yards wide. The mines are free from water to an unusual degree, although a rapid stream, the outlet of an extensive system of lakes, traverses one side of the estate, crossing the lowest corner, and this is described as most suitable for washing ores and for working the machinery which may be required. A considerable quantity of ore has been raised by Mr. Keller, a Swedish gentleman, who proposes to lease the estate to the proposed company, and an analysis of an average sample collected from all parts of the estate which were worked gave, without enrichment, metallic zinc 29 per cent., lead 6 per cent., and after a partial separation of gangue, metallic zinc 35 per cent., lead 8 per cent. Trials proved that the zinc was readily separated from the other matters contained in the ore by the ordinary process of distillation. The result of analysis showed that the average yield of the lead for silver was about 40 ozs. per ton of metal; and that the ore will be most economically dressed to a percentage of 50 to 55 for lead. It is believed that the mines were originally worked for silver. It is stated that from 1711 to 1714, 40,000 ozs. were raised from the estate. The transit is partly by rail, then by lake and canal, to a port on the eastern coast, which is closed nearly half the year by frost. A railway is in course of extension, which will permit of the production of the mine being shipped at the port of Gottenburg, which is open nearly the whole of the year. It is proposed to smelt the lead in Sweden, and bring it to England or to Hamburg for the abstraction of the silver and to ship the zinc ore to Sunderland, Hartlepool, or some port near there, for the purpose of being smelted. The report, which appears drawn up in a most temperate and cautious spirit, confirmed by the opinion of the secretary, Mr. Edward Shelley, of Wolverhampton, who has visited the spot, and has numerous specimens of the ores in his possession, leads to the conclusion that this is a concern which, with ample capital and good management, cannot fail of proving most profitable.

The annual meeting of the Wolverhampton School of Art was held on Monday. The want of liberality which has been manifested towards this institution is remarkable. Wolverhampton is largely engaged in trade in which symmetry, beauty, and, it may be added, variety of form and colour are most important elements, and every merchant and manufacturer, when he sends out his travellers is most anxious to give them patterns which are not only effective, so as to tempt purchasers. This applies particularly to that most flourishing branch of trade, the manufacture of tinware and japanned goods, which are capable of a high degree of ornamentation and great diversity of form. In spite of this, the subscriptions are very meagre to the School of Art, expressly intended and well calculated as it is to develop the talent which produces new designs, as well as the original skill which is capable of carrying them out; and it is difficult to get two or three manufacturers to attend a meeting to support it. The expenditure exceeds the income; the building is not paid for; and unless an earnest effort be shortly made the school must be closed, which would be as great a disgrace to Wolverhampton as it would be a misfortune.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

SEPT. 5.—Throughout the week the reports of the present position and future prospects of the Iron Trade have been of a more confident and encouraging character. The orders which are being given out afford ample indications that the trade is improving, and that when the autumn demand sets in it will be more active. The harvest operations throughout the country have been nearly completed, and the yield of grain is, on the whole, much more fruitful than for several years past. The trade with America is nearly a blank, but the loss of the American trade has been felt less seriously on account of the increase in the exports of all descriptions of iron to the colonies generally. The Cutlery and Steel Trades have most keenly felt the effects of the American crisis. The pig-iron trade is dull, and rates are unsteady.

The Coal Trade is on the improve, but this may now be expected, in consequence of the demand for autumn. The great enquiry is for the hard descriptions for locomotive and marine purposes; though the production has been greatly increased, especially in Derbyshire, the demand is equal to it. The opening of the new railway into the South West coal field it was thought would seriously affect the interest of the Derbyshire coalmasters, but from what we can learn the danger has not shown itself in such a palpable form as to be noticed.

Railway accidents had far to outvie those connected with mining, but it is to be hoped that for the future more effective steps will be taken to make the means of signalling more perfect and secure. The Midland, Manchester, Sheffield, and Lincolnshire, Great Northern, and other companies, have taken warning by these fearful catastrophes, and they are making great efforts to test the whole of the signals on their lines, and where necessary to erect new apparatus.

The subscriptions in aid of the sufferers by the late accident at Clay Cross continue to flow in, and although as yet no personal canvass has been made, it is anticipated that about 3000*l.* will be raised by voluntary effort. The Manchester Order of Odd Fellows, whose lodges exist in large numbers in our colliery districts, are commencing a voluntary subscription, confined to their own order. It would be well if other benefit societies were to follow this example of the Odd Fellows. The organisation which exists in these societies would render it easy to make a thorough canvass, and little doubt exists but that a good sum would be realised.

Early in August last a blower of gas was fired in the East Gawber Colliery, which caused an explosion, and the death of the manager and an underviewer was the result. The fire in the colliery increased, and it was found necessary to seal up the pit, which was done under the directions of Mr. Charles Morton, the Government Inspector of Mines, and Mr. Brown and Mr. Booth, colliery engineers. Under the impression that the explosion of the air had been accomplished, the pit was allowed to remain sealed for several weeks, and on Wednesday an attempt was made to re-open it, but no sooner had the mouth of the shaft been opened than several explosions occurred, followed by the issuing of a dense smoke from the cupola, which convinced everybody that the fire was still raging, and ultimately the pit was re-closed, and it is very uncertain when it will be re-opened. The closing of the pit will be a great loss to Mr. Craik and his partners, and a large number of persons have been thrown out of employment.

A dispute has arisen between the contractor for sinking of the shaft upon the North Derbyshire Lead Mine, and the directors. The contractor has been claiming for loss of time by detention and otherwise, and has succeeded in making up a bill for a good round sum. The directors have repudiated it, and they called a meeting of the shareholders at Sheffield on Tuesday, and invited the contractor to attend, but he did not put in an appearance; consequently, the matter was discussed in his absence, and the solicitor to the company (Mr. Wake) advised the meeting that the shareholders were not liable for the claim. We have been informed that the contractor's son has recommenced the work of sinking, but the claim remains *in statu quo*.

The new Midland Mine, at Ashover, is not being worked at present, and the prospects of the Mill Town Mine are not very hopeful just now. The Mill Dam Mine is looking well, and the men are getting a tolerable quantity of ore. Several mines in the Peak of Derbyshire, which were started some eighteen months ago, are only dragging their slow length along, if such a term may be used in reference to mining. The excitement on their establishment has gone, and now the merits of each have been, or are being, tested, but only in a small way. Many a promising undertaking has been abandoned as hopeless owing to the "fisking" method in which its promoters have inaugurated it. They have started with a capital in many cases which would not defray the cost of a workable shaft, much less provide an adequate plant. The enterprise

shown at the Staveley Works, in respect of the castings ordered for the Great Exhibition building, is worthy the veteran proprietor of the works. It is now certain that this immense contract, of the value of 60,000*l.*, consisting, we understand, of about 4000 tons weight of castings, will be completed and delivered on the ground of the building within the prescribed time. The Sheffield firm engaged in the manufacture of plates for iron-ships has made great efforts; most of the castings, which will go on increasing, as this description of work is to be further introduced into our naval armament. It will afford employment for a large portion of hands at Sheffield, and make up much for the depression existing in the steel and other trades mostly dependent upon unfortunate America.

At Gidlow and Swinley Colliery, on Wednesday, one man was killed, three seriously injured, and three much shaken by a sudden jerk of the rope when the cage was about a dozen yards from the bottom of the shaft. The cause of the accident is unknown.

REPORT FROM MONMOUTH AND SOUTH WALES.

NEWPORT, CARDIFF, AND SWANSEA, SEPT. 5.—There is a general slackening tendency in the Coal Trade during the last six or seven days. The pits and levels are in average work, and some of the collieries are extremely busy, but the dullness which prevails in every branch of business affects the coal market, and tends to disturb its usual active condition. A large number of vessels have arrived at Newport, and both river and docks are crowded with ships. The number of arrivals at Cardiff has not been so large as usual, while at Swansea things are in a very brisk condition. Briton Ferry is extending in all directions, and the facilities afforded by the new dock for loading and discharging vessels will eventually secure a large trade to the port. The Vale of Neath Railway Company have subscribed largely to the undertaking, and as far as possible they will make Briton Ferry their port of shipment. This, and the central position of the place, will render it one of the most important export towns in the Channel in connection with the coal trade.

The South Wales Railway Company will cease to work the Swansea Harbour Railway and the Drops in the South Docks this week. Notice having been given to the harbour trustees, the other public companies, and the freighters of the intention of the South Wales, the former convened a special meeting for Saturday last. After some considerable discussion, it was agreed that arrangements should be entered into with the Vale of Neath Railway Company for working the Harbour Railway and the Drops in the South Docks from and after the 8th of this month.

The half-yearly meeting of the Penarth Harbour, Dock, and Railway Company was held on Thursday last, Mr. Crawshaw Bailey, M.P., in the chair. There were also present Messrs. Goddard, J. Nixon, W. S. Cartwright, Fowler, Watkins, &c. A dividend of 1 per cent. per annum was unanimously agreed to. It was reported that owing to disputes with the contractors, Messrs. Smith and Knight, the company had determined to carry on the works themselves, returning the plan of the contractors according to the terms of the agreement. About 750 men were at present employed. The company had been successful in obtaining powers to raise a loan for completing the works, and for providing rolling stock to run over the Taft Vale Railway, although they were strenuously opposed by the trustees of the Marquis of Bute and the Glamorganshire Canal Company. The usual votes of thanks to the directors, Chairman, &c., terminated the proceedings. The annual meeting of the Cardiff Water-works Company was held at the company's offices on Friday last. A dividend was declared at the rate of 8 per cent. on the old, and 7½ per cent. on the new shares.

Merthyr Tydvil, the great seat of the iron trade for this district for the last 50 years, has of late shown evident symptoms of decay from its former prosperous condition. This may be accounted for in two ways. The state of the iron market has depressed every iron-works throughout the kingdom, and Merthyr has felt its proportionate share. The disruption of the American Union, and the unsettled condition of matters on the Continent, tend to continue this depression, and the ironmasters are eagerly looking forward to more peaceful times. There has been, however, another dark cloud overhanging Merthyr for the past twelve months, and this has been caused by a report that the Cyfarthfa lease would not be renewed. Mr. R. Crawshaw, the proprietor, has expended hundreds of thousands on the works, and he has also been the recipient of a princely revenue in return. It was rumoured that he cared but little about continuing the works, and, on the other hand, it was asserted that the trustees of the Marquis of Bute and the other landed proprietors asked an exorbitant sum for re-letting the property. Whether these reports were correct or not it now matters little, as on Friday last information was received that a further lease of 40 years had been agreed to between Mr. Crawshaw and the landowners, and this was fully confirmed on Saturday. The greatest joy prevailed in the town during Friday and Saturday, and the inhabitants determined to hail the announcement with befitting welcome. Mr. Crawshaw and his agents visited the Froedryth Pits on Saturday, and these will be at once proceeded with.

At the Aberdare Police Court, on Tuesday, Morris Connelly was charged with stealing iron, the property of Mr. Richard Fothergill. A watchman named Howells, in the employ of the prosecutor, proved having seen him picking up several pieces of iron from the slidings in front of the furnaces. The quantity stolen was 4½ lbs., of the value of about 2½d. The prisoner had been previously convicted for a similar offence. Committed for trial to the next Glamorganshire Quarter Sessions.

The strike still continues at Abercrombie, and there is no disposition to yield on either side. The men include in their grievances certain complaints against some of the under-agents, and this has created much ill-feeling. Mr. Brown, the chief proprietor, has had an interview with the men, but no satisfactory result followed. The reduction of 10 per cent. in the iron-works is also causing a great number of the men to strike. On Friday all the men went out to Messrs. Booker's Works, Pentreth, and by the latest advice they had not resumed work. These frequent turn-outs are much to be deplored.

COAL MINING EXTENSIONS IN GLAMORGANSHIRE.—At a period like the present, when the use of coal is so continually extending, it affords us pleasure to notice the extension of works to meet the demand of this invaluable mineral. During the last few months a new "winning" has been in progress at the main colliery, near Neath, and on August 29 the well-known Neath Abbey Coal Company's Wernfrith seam, to which the pit was being sunk, was cut at a depth of about 170 yards. By this shaft the company will be able to materially enhance the quantity of coals raised; and as the Main Colliery coal is of that quality which finds ready sale, we have no doubt the undertaking will be very profitable. The average progress from first to last in sinking and walling has been about 2 fms. per week, and the entire time since the commencement has scarcely exceeded 11 months. Many difficulties had to be contended with, owing to water and very hard rocks, but it will be enough to say the other pits on the same property were more years than this has been months in sinking. The mining engineer under whose directions the works are is Mr. John Graham, jun., a gentleman whose experience pre-eminently fits him for the situation. Messrs. Smith and Oliver, of Swansea, were the contractors, and have discharged their duty as contractors in a manner highly creditable to themselves and satisfactory to the proprietors of the colliery.

HOW TO MAKE A RAILWAY UNPRODUCTIVE.—In this great railway age severe competition incites our merchants, tradesmen, and public companies to make prodigious exertions to out-do each other. They strive which shall contribute most to the convenience of the public. Activity and economy is the order of the day, and in the long run the individual or firm that is the most successful is that which is most meritorious and deserving. Many of our readers are aware that a short railway has been opened some time since (a small joint-stock company, known as the South Wales Miners' Company). They projected this line of railway from Briton Ferry, in order to transfer the rich mineral productions of the interior. The railway extends some 5½ miles, passing along land than can, for years to come, be made instrumental in affording employment to thousands of workmen. Among the colliery proprietors that have commenced mining operations in that district is the Glynwrog Coal Company, of whom Messrs. Homfray and Prothero are proprietors; and a number of men have been employed at these works for some time past. A few weeks since the work, for certain cogent reasons, was relinquished, and although Briton Ferry Docks have since been opened, still no lines of coal wagons are seen to glide along the infant railway. The South Wales Miners' Company are, we believe, confined to very few shareholders, and, judging from the extraordinary policy they adopt, the object of this model company appears to be to disgust as much as possible all enterprising colliery proprietors who may be disposed to feed it by opening collieries. Will it be believed that instead of charging a reasonable rate for transporting coal they make the almost fabulous exaction of 3d. per ton per mile. This rate of charge, when contrasted with the Taft Vale Company's seven-eighths of a penny per ton per mile, amounts in a very satisfactory manner for the reason why Messrs. Homfray and Prothero have suspended operations, and why many other colliery owners whom we could name are afraid to commence when they contemplate the monstrous charges referred to, which are in themselves sufficient to disgust and discourage any one from developing the resources of so productive a valley. Strange stories are circulated in reference to the above company. Some intimate that the railway is leased under peculiar circumstances to some persons in the district, and that these persons are desirous of cramping the usefulness of the railway for the purpose of attaining some extraordinary purpose that ordinary mortals cannot comprehend. Whatever be the motives by which the company is actuated, it is palpable that they could not destroy the traffic more effectually than by fixing the rate at a price that is unprecedented in the districts. The Taft Vale Railway, as our readers are aware, is perhaps the best paying line in the kingdom. But how have the proprietors been so pre-eminently successful? Assuredly not by doing away their freighters by denuding a rate of carriage that would render it impossible for them to supply their coal to the markets at the same costs as other colliery proprietors, and at the same time obtain adequate remuneration. The South Wales Miners' Company have by their extraordinary policy succeeded most effectually in stifling the trade and crippling the development of a little railway that would soon prove one of the most profitable to the shareholders were a moderate scale of charges imposed. Hitherto the few colliery proprietors who possess land contiguous to the line have abandoned all hopes of working coal at a profit, notwithstanding the additional facilities offered them since the opening of the dock. It appears, from the conduct of the company, they are deceived in the course they are led to pursue by some blundering person or persons. Have they never heard of the triumphs of cheapness as regards paying capabilities? Are they cut off from ordinary channels of information, and from communications with their fellow-creatures? Do their beliefs in the success of the penny postage. Can they credit that they can visit Paris and return back again for a pound sterling? It would appear that they ignore all these facts when they fixed their charges at 3d. per ton per mile. Coal would, indeed, be an expensive commodity, an enviable luxury, were there many South Wales mineral companies in this kingdom. We do trust that some intelligent shareholder will take up the matter in a proper spirit, and endeavor to remove the reproach that at present rests upon the company, from adopting a course that cannot but prove suicidal. Surely there can be no substantial and valid reasons why the above company should fix their charges at such an excessive rate, so as to drive away commerce, trade, and prosperity from the district, and which must operate in seriously diminishing the dividends of the shareholders. We can confidently predict, from the natural advantages of the district, from its mineral wealth, and contiguity to railway and dock accommodation, that if the rate of charges were only reduced to 1d. or even to 1½d. per ton, the traffic would soon become considerable. We are in a position to name half-a-dozen colliery proprietors who are only waiting for some change in the seat of affairs to which we have alluded before they feel justified in making a heavy outlay. We sincerely trust that the abuse to which we have drawn attention will be speedily remedied, otherwise the railway will be comparatively useless, and capitalists will be compelled to seek other quarters wherein to speculate, and so deprive a promising neighborhood of the wealth and prosperity which it must secure if advantage is taken of its natural position.

VALE OF CLWYD MINING COMPANY.—A petition for winding-up this undertaking will be heard in the Bankruptcy Court on Wednesday next.

NEW MINERAL ORE AND COAL WASHING MACHINERY.

The subject of dressing ores, and of improved machinery for that purpose, to which considerable attention has of late been directed, seems to continue to excite much interest. This is natural, since the recollection of the vast quantity not only of ores annually raised, but also of the amount of waste rejected, though containing some small percentage of ore, and the knowledge that (as Mr. J. Darlington has shown) an addition of not more than 1 per cent. from the stuff sent to surface would be equivalent to an additional sale value of scarcely less than 40,000*l.* per annum, prove the immense importance of the subject not only to the miner, but to the country at large.

An improved machine, for separating either ore from gangue, or coal from pyrites and shale, has recently been patented by Mr. Edmund Edwards, C.E., and appears likely to become of considerable importance. Mr. Edwards has for some time past been engaged in experiments upon the cleaning of the above-named substances, and a few years ago patented (in conjunction with Mr. Beacher) a machine for the purpose. This was a modification of that introduced by M. Bérard some time ago for washing coal, and which caused no small interest at the time of the Industrial Exposition of 1851. Whilst avoiding, however, some of the imperfections of the latter (and which rendered it specially inapplicable to the dressing of mineral ores, or heavy substances), this machine was not without defects of its own, which experience has shown to be detrimental to its general use, not the least of these being its complication of parts, comparative cost, and want of durability. This experience has enabled Mr. Edwards to avoid the above imperfections in his new machine, which appears to be both cheap and simple, as well as very effective in its action. It consists of a cylinder of wood or metal, partially open at the top, the open part being fitted at a depth of a few inches with a perforated plate, or screen, upon which the ore or coal is fed from a hopper. The top of the closed part is considerably lower than the remainder, and has an aperture covered with a disc of leather, upon which is fixed a convex plate of sheet-iron, carrying a block of hard wood. The cylinder being filled with water, the pressure of the latter is sufficient to raise the disc as far as its flexibility will permit, whilst a shaft above, driven from any suitable source of power, is fitted with a series of *cams*, which depress the leather by a succession of sudden blows as the shaft revolves, thus causing a corresponding rise of the water through the perforated plate. The upper stratum of the stuff thus washed being waste, is removed by a set of plates in a frame traversed on wheels by a crank from the shaft, a very important arrangement being that when necessary this frame can be turned up out of the way to allow the ore accumulated upon the screen to be removed without stopping the machine, which, indeed, works continuously, since the cylinder is sufficiently large to contain any fine particles which may pass through the screen during one or more days of work.

A great advantage of this machine seems to be that it is readily adapted to any quality of stuff; thus, by limiting the rise of the leather disc, the motion communicated to the water is rather a *jar* than a succession of rises and falls, and this motion is effective in separating perfectly substances of nearly the same specific gravities, such as lead ore and blende. On the other hand, where large rough stuff has to be operated upon, the disc is allowed its full stroke, and the stuff is cleaned as fast as it can be fed into the hopper, or from 20 to 50 tons per diem. It is found to be a very great advantage that the leather disc is allowed to rise slowly, instead of being drawn up suddenly, since the fragments of stuff thus fall slowly upon the screen as they range themselves there in the order of their specific gravities, instead of being *driven* down as in a *crank* machine.

The efficacy and steadiness with which this machine works seem complete, and have led to the highest encomiums being passed upon it by practical dressers who have seen it in operation, especially as the power required to drive it is exceedingly small, so that it seems probable that, with slight modifications which practice may suggest, it may supply a desideratum long required in the mines and collieries of the country.

BRITISH ASSOCIATION—MANCHESTER MEETING.

The British Association for the Advancement of Science commenced their ordinary annual meeting at Manchester, and, judging from the attendance, the prosperity of the institution is as great as its most sanguine admirers could desire. Lord Wrottesley, the President of the past year, having formally resigned the chair to Mr. William Fairbairn, the latter proceeded to deliver a very appropriate and interesting inaugural address. He referred to the immense utility of the British Association in bringing together for a common object—the advancement of science—the learned professors in our Universities and the workers in practical science. Their periodical reunions have been of incalculable benefit in giving to practice that soundness of principle and certainty of progressive improvement which can only be obtained by the accurate study of science, and its application to the arts. The association does not confine its discussions and investigations to any particular science; and one great advantage of this is, that it leads to the division of labour, whilst the attention which each department receives, and the harmony with which the plan has hitherto worked, is the best guarantee of its wisdom, and proof of its success. The history of the development of the science of astronomy, and its sister sciences—magnetism, chemistry, geology, botany, zoology, geography, and ethnography—was briefly stated, and Mr. Fairbairn then gave an interesting epitome of the progress which had been made in practical science. Referring to the iron manufacture, he remarked that previously to the invention of Henry Cort the manufacture of wrought-iron was of the most crude and primitive description. A hearth and a pair of bellows were all that was employed; but, since the introduction of the puddling, the ironmasters have increased their production to an extraordinary extent, down to the present time, when processes for the direct conversion of wrought-iron on a large scale are being attempted.

A consecutive series of chemical researches into the different processes, from the calcining of the ore to the production of the bar, carried on by Dr. Percy and others, has led to a revolution in the manufacture of iron; and although it is at the present moment in a state of transition, it nevertheless requires no very great discernment to perceive that steel and iron of any required tenacity will be made in the same furnace, with a facility and certainty never before attained. This has been effected, to some extent, by improvements in puddling; but the process of Mr. Bessemer—first made known at the meeting of this Association at Cheltenham—affords the highest promise of certainty and perfection in the operation of converting the melted pig direct into steel or iron, and is likely to lead to the most important developments in this manufacture. These improvements in the production of the material must, in their turn, stimulate its application on a larger scale and lead to new constructions. Iron shipbuilding, rifled ordnance, iron bridges, telegraphy, and tool-machinery were in turn commented upon; and, in conclusion, Mr. Fairbairn acknowledged the high honour which he esteemed his election as President of the British Association to confer upon him, but not upon him alone; he felt that, far beyond the consideration of personal qualification, his election was intended as a compliment to practical science and to the great and industrial metropolis of the future, where those who cultivate the theory of science may witness, on its grandest scale, its application to the industrial arts.

The exhibitions are this year rather above the average than otherwise. The telegraph exhibition is of a highly interesting character—Wilde's Globe Telegraph and Breguet's French Morse being those which attract, perhaps, the greatest share of attention. In the exhibition connected with the mechanical science were Fairbairn's iron plates, showing the effect of cannon shot on his targets. Mr. Jos. Whitworth exhibits some of his 70-lb. bolts, which penetrated the *Trusty* floating battery. Mr. Abraham Hemmings sends a model of a locomotive engine, with new arrangements of the cylinders; and Messrs. Sharp, Stewart, and Co., Atlas Works, will show a full and actual section of Giffard's patent injector, which is effecting a complete and most valuable change in the mode of feeding steam-boilers with water. There is also a working model of a patent slot drilling-machine, by Messrs. Sharp, Stewart, and Co.; a new patent bolt and screw-cutting head, by Messrs. W. Sellers and Co., Philadelphia; a model of a friction winch for working large ropes and chain cables, by Mr. R. Roberts; a model of a patent combined lever and spring safety-valve, by Mr. J. Ramsbottom, engineer, at Crewe, for the London and North-Western Railway Company; a model of a patent oscillating punching and shearing machine, by Mr. J. de Bugey; and a model of a locomotive made by Mr. Bennett Woodcroft, of the Patent Office; a model of an improved method of steering ships, by Messrs. Jeffs and Co., Manchester; original models by James Watt, contributed by Messrs. James Watt and Co., Soho, including rack and wheel motion, sun and planet motion, pumping-engines, internal sun and planet motion, cone-crushing machine, and single and double trussed engine-beams. The geological exhibition comprises assorted series of fossils from the carboniferous limestone, the coal measures, and other strata; and many fine implements from the drift and the so-called stone period.

On Thursday morning the various sections regularly commenced their proceedings. The meeting at once to the Geological Section, we may state that Sir R. L. Murchison, the President, delivered an address of an elaborate and highly instructive character; but at the same time one which was altogether free from needless technicalities, calculated to the reader it tedious; it was, in fact, an address which would tend to induce the love of the science amongst those by whom it had hitherto been considered repulsive.—Mr. E. W. Binney then read a very interesting paper "On the Geology of Manchester." He described the several beds of gravel, sand, and till, forming the superficial covering of the district:—1. The valley gravel, with its successive terraces; 2. The widely distributed upper sand and gravel; 3. The great deposit of boulder clay or till, which is of some places 90 ft. thick, and yields the brick earth of the vicinity; 4. A lower bed of gravel. The underlying rocks or skeleton of the country, known as the *Permian* or *Carboniferous* system, were then treated of.—1. The trias, or upper red beds, marls, sandstones, and limestones with gypsum, amounting to 600 feet altogether. These overlie the coal measures, and have been placed in search for coal at Medlock Vale and elsewhere. These beds were regarded by the lecturer as equivalent to the lower permian beds of Yorkshire; the lower bed of conglomerate is found to thicken out northward in Cumberland and Scotland to some thousands of feet in thickness; 3. The coal measures of Manchester coal field, as proved by borings, and by the few local exposures at Ardwick and elsewhere. All of these are exceedingly dislocated—one fault, having certainly a downthrow of 1050 yards at one place, and of 50 yards some miles off, and another showing far greater disturbance, some of the faults showing much evidence of a lateral movement. The lecturer regarded these faults as having been formed for the most part immediately after the carboniferous era, and they were further shifted after the permian period. The lecturer illustrated his remarks by a geographical sketch map of the district, showing the distribution of the superficial clays, gravels, and sand, and another showing the arrangement of the lower rocks, as far as yet determined; and by three sections of the district—one from Trinity Church to Waterhouses, another from the Eskdale to Smedley, and the third from Eccles to Kersal Moor. The reading of the paper was followed by an interesting discussion, in the course of which Prof. Phillips highly commended Mr. Binney upon his admirable remarks upon the stratification of the surrounding country, observing that the examination had been carried on with advantages which no one else could have achieved. Mr. E. Hall said he should feel himself guilty of a no one else could have achieved. Mr. E. Hall said he should feel himself guilty of a no one else could have achieved. Mr. E. Hall said he should feel himself guilty of a no one else could have achieved.

Another interesting paper in this section was read by Mr. J. G. Marshall, "On the Relation of the Ekdale Granite at Black Comb to the Schistose Rocks." Mr. Marshall first referred to the observations which he offered last year to the Association on the first and metamorphic rocks of the southern portion of Cumberland. He then described the granite under notice, and its relation to the schists, and considered it as exhibiting a metamorphosed condition of some beds of clay-slate. Other granite granites were also described, and similar conclusions as to their nature were arrived at. Those granite rocks that the author finds to be more fusible, he regards as having been more altered; the less fusible rocks he believes to have been converted into porphyry. He has been able to trace in specimens of the granite a passage from neither phry, into the ordinary schistose rocks. He regards the granite as having been neither eruptive nor intrusive, and he stated that the granite does not give rise to a periclinic axis. General considerations on the nature of granite, its relations to the conditions of the earth's crust, and its probable metamorphic character, were then offered; and this

rock was contrasted with ordinary lava, and the improbability of the latter being connected with the molten central mass of the earth. Upon the conclusion of the discussion which followed the reading of the paper, Mr. Scott promised some remarks at a future period on the granites of Ireland, and their relations to the metamorphic rocks, gathered from a tour in Donegal.

STEAM NAVIGATION IN BRAZIL.—The very inefficient means of transport for merchandise in the inland parts of Brazil is prominently referred to in the official report of Mr. Baillie, Her Majesty's representative in that country, upon its trade and commerce during the year 1860. Although during the past few years much has been done in the way of opening up an improved means of communication, it is only within a comparatively few months that the works have been sufficiently complete to produce any appreciable effect. It is to our shipbuilders and engineers that Brazil has been chiefly indebted for the construction of her steamers and railways, and to us she naturally looks for such financial co-operation as may help her still further to advance her own commerce, whilst she is purchasing from us the active means of its extension. A proposition, founded upon such reciprocity of benefit, presents itself in the prospectus of the Bahia Steam Navigation Company (Limited), having special reference to the requirements of the city of Bahia, which contains, with its population of 200,000, an important nucleus of Brazilian enterprise. The opening of the Bahia Railway has already added so much to the passenger and goods traffic in the Bay, as well as to and from the various ports on the Brazilian coast, in direct communication with the city of Bahia, as to render necessary a material extension of the previous steam-vessel accommodation of the port; and as the local steam-ship companies are not capable of meeting the increased demand, their interests have merged in those of the Bahia Steam Navigation Company (Limited), now being completed in London. This new company will represent the commercial influence of both countries, and holding a monopoly of the route between the city of Bahia and the coast of Brazil, will carry passengers and merchandise from the Bahia and San Francisco Bays to the city as the nearest point, and to the remotest ports within the limits of the Government grant. The subsidies, payable monthly, being equal to above 12 per cent. per annum upon the entire capital. The Bahia Steam Navigation Company offers many inducements to the British capitalists, and with judicious management failure would be almost impossible.

ZINC AND LEAD MINING IN SWEDEN.—The celebrated mines of Stollberg, which have been reported by Prof. Carlberg, the director of the Swedish Government Department for Mines, to be the richest in the kingdom for silver, lead, and zinc ores, are about to be vigorously developed by an English company—the Victoria Silver, Lead, and Zinc Company—with a capital of £30,000. An average sample from 15,000 tons, already gotten, gave 29 per cent. for zinc and 6 per cent. for lead, whilst other samples gave 40 to 80 per cent. for lead and 40 to 80 oz. of silver per ton of lead. Of the capital, £10,000 (in cash and shares) is to be paid to the lessors for transferring all rights and interests to the company, and 7000l. is to be paid for lead smelting furnace, dressing apparatus, roads, tramways, &c., in Sweden, and for zinc smelting works at Hartlepool or Sunderland, so that 13,000l. will remain for working capital. The mines have been carefully inspected and reported upon by Mr. John Darlington (Phillips and Darlington), who is well known to most of our readers, and who was recommended to the secretary by Mr. Robert Hunt, F.R.S., of the Government School of Mines, as a gentleman knowing more of the metallurgy of zinc than any one else he knew. His report is of a very elaborate character, and generally favourable; he estimates the profits upon spelter at rather more than 5l. per ton, and that upon the lead at upwards of 14l. per ton. He concludes his report by observing that "it would be unsafe to rely implicitly on any calculations that may be made relative to the profit likely to accrue on this undertaking; but considering, first, the antiquity of the mines, and large extent of excavations made by the ancients, implying that they were profitably worked during an extended period; second, the almost entire absence of water in the various workings; third, the large quantity of surface water which exists for driving all kinds of machinery; fourth, the cheapness and quantity of labour obtainable; fifth, the cheapness with which the ground can be broken; and, lastly, from the unusual magnitude of the deposits, together with the quantities of available ores and the large amount of stuff broken during the past nineteen months, I am decidedly of opinion that this undertaking comprehends all the elements of success, and with a judicious expenditure of money and an intelligent management, highly satisfactory profits will be secured." The secretary, who has also visited the mine, writes that he has an estimate for making lead in Sweden by one of the first men there, and he calculates that 23l. per ton profit will be made, which is more than 8l. per ton higher than Mr. Darlington's estimate. He continues that he has no doubt that zinc will be made at an average profit of 6l. per ton, if not much more, and this upon a make of 3000 tons is 18,000l. per annum; together the works when in full operation will be capable of producing, therefore, a profit of 38,000l. per annum with a capital of 30,000l. He thinks, therefore, he has a perfect right to say they shall make from 30 to 50 per cent. per annum. The mines are fully ready to yield their vast resources; all they want is the capital.

MINERAL RESOURCES OF CANADA.—In calling attention to the mineral resources of Canada in the *Mining Journal* of last week, we referred to the formation of the Canada Mining Agency Association, and we this day publish the preliminary prospectus of the undertaking. The very partial explorations made have laid open a large number of valuable deposits, some of undoubted importance. As the prospectus contains ample details of the course of operations which the association intends to pursue, comment here is unnecessary. The capital is fixed at £100,000, in shares of £10 each, with power to increase it to £500,000. The liability of the shareholders will be limited under the general Act of the Provincial Legislature, but it is intended ultimately to obtain a special Act of Incorporation. An efficient staff of explorers will be employed, and places of business will be opened in Canada, the United States, and England, the chief office being at Montreal.

NEW MINERAL RAILWAY IN NORTH WALES.—The richness of the mineral deposits of Anglesey has long been known, but, owing to the very insufficient means of communication, comparatively few mines have been opened, and still fewer have proved remunerative to the adventurers. The Parys Mines, however, stand prominently forward as a monument of successful mining enterprise, and a mineral railway is now projected for opening up the district—the Anglesey Central Railway—which will admit of a large number of the mines which have hitherto lain dormant to be made to add to the mineral wealth of the kingdom. The proposed line is to commence at the Gaerwen station of the Chester and Holyhead Railway, and, skirting the Berw coal field, to proceed to Llangefni and Llanerchymedd, thence passing the Parys Mines to Amlwch. Apart from the large revenue which must be derived by the company from the carriage of minerals from the mines, which are situated along the entire length of the line to the smelting-works, which are near its western extremity, considerable profits may be relied upon from the carriage of coal to the smelting-works, where the annual consumption exceeds 30,000 tons, and where, owing to the great effect which the weather has upon stopping the present means of communication, delays of seven weeks have sometimes occurred in getting their supply. The whole of the land owners, through whose properties the line will pass, fully appreciate the advantages derivable from the undertaking, so that there will be no parliamentary opposition to contend against. Indeed, the whole of the land, with trifling exceptions, has been promised at a fair agricultural price, and in many instances, the amount thereof (and in some cases more) will be taken in shares. During last week an influential meeting was held at Amlwch, at which Mr. R. T. Griffith presided. The capital of the company has been fixed at 150,000l., in shares of 10l. each. The Chairman having explained the advantages of the line, and the exertions which the promoters had already made, Capt. Mitchell and Messrs. Poynter, Rose, R. L. Dew, W. Jones, J. and N. Treweek, Evans, Lodge, O. Jones, and J. Palmer were requested to act as local committees for furthering the project by every means in their power. Mr. W. Dew remarked that in Amlwch they were 17 miles from any railway; they had mines, shipping, and agricultural produce, and it was to be expected that the line would be the best of the kind in the district, and the introduction of marked improvements, the most perfect machine will be introduced, and, therefore, when it is stated that the experimental journey performed on Saturday last by the powerful engine constructed by Messrs. Gardner and Mackintosh, of New Cross, according to the patent of Messrs. Longstaff and Pullan, was regarded by the scientific men who witnessed it as a most perfect success, it must not be thought that any adverse reflection is cast upon previous inventions; nor when it is further stated that this engine, the patent right to manufacture which has been purchased by the National Traction-Engine Company, seems to possess in an eminent degree the various requirements expected of a perfect traction-engine, that anything invidiously is intended with reference to the several inventions which have preceded it, all of which possess their respective merits. But Messrs. Longstaff and Pullan claim to have surmounted at least two very great difficulties—the avoidance of the excessive strain to which the boiler was subjected in being the foundation of the principal portion of the driving machinery, the reciprocal motion of which inevitably resulted in the production of so much leakage that the strongest boiler was rendered unfit for service after a comparatively short time, and they have also overcome the difficulty of applying the spring usually attached in wheel carriages in such a manner that, while sufficient elasticity is provided to compensate for the inequalities of the road, the relative position of the driving crank and intermediate shafts is rigidly maintained, in order that the gearing employed may not be liable to jam or work with unnecessary friction. The steering apparatus is so constructed that the power is communicated through the medium of a screw, or a pair of screws, ranged parallel to each other, so that while the nearest adjustment can be instantaneously obtained, the parts form a rigid connection, free from all disturbances. The result of the person steering the engine be further applied, which is an arrangement that gives a much more perfect control of the engine than has hitherto been attained. Another feature that is worthy of attention is the novel principle involved in the construction of the driving-wheel—the combination of wood and iron, so arranged and proportioned as to secure all the necessary elasticity of the former without losing the strength and durability that is derived from the latter; and besides which, no power is lost by the employment of shoes, teeth, and endless rails. The experimental journey, which was made on Saturday, proved this engine to be fully equal to more than the ordinary requirements of a traction-engine, having propelled at a fair average speed ten or twelve heavily laden ballast trucks without apparently the least undue strain. The results of the experiments elicited the unqualified approval of those who accompanied the engine throughout its transit, the general opinion being that, in many respects, it is superior to any other traction-engine that has yet been introduced to the public. Among the gentlemen who witnessed the experiments we observed General Macon, Major-General Penberton, Colonel Moore, Dr. Mann, Dr. Laurence, Colonel Gumm, and Messrs. Gardner, Gillman, Leese, Finner, Clarke, Reddin, J. Hoppod, Ross, &c. Relative to the application of traction-engines for general purposes, it may be stated, according to the testimony of Mr. Reddin, one of our most extensive London contractors, who has for some time past employed in various ways traction-engines to a very considerable extent, that, compared with horse labour, a saving of something like 70 per cent. is effected. The object of the National Traction-Engine Company is not for the manufacture and disposal of their engines, but for the purpose of working traction-engines on

contract, or, in other words, letting them out on hire; and, therefore, in some respects, similar to those successful undertakings to which we have so often called attention, formed for the purpose of supplying rolling stock to railway companies, and which continue to pay a very handsome profit upon the capital invested, while, at the same time, they from time to time add to their stock on hand and reserve capital. It is said that the National Traction-Engine Company have already been offered contracts which it is estimated will produce 1000l. per annum profit.

PATENT BITUMINISED PAPER PIPES.—As we presaged, these pipes, while in several important respects superior to iron, are found capable of general application wherever metal pipes would otherwise be employed. It says something for the importance and utility of the invention to find that no less an authority than Mr. Nicholas Wood has recently ordered a large quantity of these pipes to be used, we understand, at the Hutton Colliery, it having been found that for colliery purposes they are in all respects superior to any other description of pipes. Being extremely light, and, therefore, easily conveyed upon mules' backs across the mountains, a large quantity has recently been ordered by a party interested in several South American mines, where they are to be used for the purposes of ventilation. As they will have to be conveyed for several hundred miles across the mountains, their extreme lightness is a most important recommendation, and upon the same account bituminised paper bottles will probably soon supersede iron bottles, which are generally used for culinary purposes, and which are so liable to fracture. As these pipes can be easily joined as they can be disconnected, and, therefore, readily moved from place to place, they are peculiarly adaptable to brick and pottery works, and they have been lately efficiently used at the Royal Victoria Patriotic Asylum, Wandsworth, in the conveyance of liquid manure, for the purposes of irrigation. It is said this service of pipes, which would, if made of iron, have cost something like 2500l., has been laid down for between 600l. and 700l.

OUR WINE MART.—It is not the least beneficial attribute of the new fiscal system relating to the importation of foreign wines, that a really genuine and generous article of vinous consumption can be brought within the reach of the working classes of this country. We can well remember how difficult it was for an ailing workman in our mining and manufacturing districts to obtain, except at a price far above the means his avocations supplied, any wine ordered as a medicinal restorative; more difficult still was it to find that which could be relied on for such a purpose. But those days are, fortunately, passed. The high prices which gave a premium to foreign growers for the adulteration of wines shipped to England no longer exist, and such produce now comes into the market dependent upon the fair barter of quick sales and ready profits; while by this state of trade not only the labouring and artisan classes, but the middle and higher orders of society are promoted to the enjoyment of a wine more generally used for culinary purposes, and which would put an end to fermentative dyspepsia in the parlour; however, this is a gastronomic theory we do not care to discuss. Enough that the entire community, but particularly that great element of it our industrial population, is secured an extensive and beneficial sphere of selection as to healthful substitutes for those noxious spirituous incentives to intemperance from which, according to our sanitary statistics, it has so fatally suffered. Among the several competitors for public confidence are the "Vintage Wine Company," whose Xeres Golden Sherry has been satisfactorily certified to us as of pure and nutritious quality, that we notice this product of the vineyard as a boon to the general public, and particularly to the mining and manufacturing population in whose well-being we are so immediately interested. A genuine Spanish wine at 1s. 6d. per bottle, which, a little time past, would have been only attainable by the poor labourer or artisan at a cost of 4s. 6d. or 5s., is a circumstance which favourably reflects on the great commercial revolution we supported from the first, and points to an approaching change in the health and habits of the people which cannot be, upon philanthropic grounds, too energetically encouraged. We are at all times slow to accept the promise of new commercial enterprises, but where their legitimate value, as in this instance, comes under our consideration, evidenced by respectability and fact, we do not hesitate to notice it as of public utility.

HOLLOWAY'S PILLS.—THE LIVER AND ITS AILMENTS.—Alterations of temperature and muggy weather exert the most deleterious influence over the liver and its secretions. Against occasional bilious attacks no precaution can always guard, but Holloway's pills place their immediate cure within the reach of all; fermented purgatives should be refrained from, and all errors of diet scrupulously avoided, while these purifying pills are being taken according to the printed directions which envelope them. They will soon dispel uneasiness, and discipline all disordered action, without interfering with business, pleasure, or study. Pains in the back, flatulency, constipation, and abdominal fulness are likewise remediable by the same means, which, without irritating or annoying, regulate, restore, and strengthen every organ.

Board of Admiralty, Somerset House.

CONTRACT FOR COALS FOR FAYAL.—THE COMMISSIONERS FOR EXECUTING THE OFFICE OF LORD HIGH ADMIRAL OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND do hereby give notice that on Tuesday, the 24th September next, at Two o'clock, they will be READY TO TREAT with such persons as may be willing to CONTRACT for SUPPLYING and DELIVERING on board Her Majesty's steam-vessels in Fayal Roads all such quantities of SOUTH WALES COALS, fit for Her Majesty's steam-vessels, as shall from time to time be demanded under a contract for twelve months certain, from 1st December, 1861, and afterwards until the expiration of three months' warning. A form of the tender may be seen at the said office. No tender will be received after Two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing.

Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Coals," and must also be delivered at Somerset-place, accompanied by a letter signed by a responsible person, engaging to become bound with the person tendering, in the sum of £200, for the due performance of the contract. Department of the Storekeeper General of the Navy, Somerset-place, Aug. 21, 1861.

Royal Dockyard, Pembroke.

CONTRACT FOR COALS.—Persons who may be willing to CONTRACT for the SUPPLY of all or any of the descriptions and quantities of COALS specified in the following form of tender, will send in sealed tenders to the office of the captain superintendent of the above dockyard, on Tuesday, the 10th of September next, at Twelve o'clock precisely.

FORM OF TENDER FOR SUPPLYING COALS FOR HER MAJESTY'S DOCKYARD, AT PEMBROKE.		
Quantity.	When to be delivered.	Price p. ton.
SMITHERY COALSTons 594	50 tons by 30th November, 1861	£ s. d.
	50 tons by 31st January, 1862	
	200 tons by 28th February, 1862	
	694 tons by 31st March, 1862	
NEWPORT COALS495	50 tons by 31st December, 1861	
	150 tons by 14th February, 1862	
	295 tons by 31st March, 1862	
	100 tons by 30th November, 1861	
GAS COALS291	100 tons by 14th February, 1862	
	91 tons by 31st March, 1862	
	10 tons by 30th November, 1861	
	10 tons by 31st December, 1861	
COKED COALS45	10 tons by 28th February, 1862	
	15 tons by 31st March, 1862	
	100 tons by 31st December, 1861	
	100 tons by 31st January, 1862	
STEAM VESSEL COALS FOR DOCKYARD625	100 tons by 28th February, 1862	
	325 tons by 31st March, 1862	

CONDITIONS OF THE CONTRACT.
SMITHERY COAL.—To be of the Gwscwm Vein.
NEWPORT COAL.—To be of the description known as best Newport coal; and to be handpicked or properly screened and made free from small coal and dust.
GAS COAL.—To be such as will produce not less than 10,500 cubic feet of gas per ton in six hours, and to be delivered at the gas works.
COKED COAL.—To be thoroughly suited for foundry purposes, and to be baked for either 48 or 72 hours, or less or more as may be required.
These COALS FOR STEAM VESSELS.—To be of all or any of the following denominations, at the option of the superintendent of the said yard, viz. (handpicked or properly screened and made free from small coal and dust):—Merthyr, Nixon's Merthyr, Aberaman Merthyr, Sgyborth Merthyr, Blaendare Merthyr, Thomas's Merthyr, Carr's Merthyr, Cwm Amman Merthyr, Bute Merthyr, Davis's Upper 4 feet Merthyr, Wayne's Merthyr and Gadley, Merthyr Dare, Blaengwar, Graigola, Parson's Graigola, Parson's Abbey Graigola, Birchgrove Graigola, Bryndorway, Nixon's and Powell's Duffryn, Llangennech, Resolven, Cameron's Coalbrook, Ebbw Vale, Morfa, Machin Black Vein, Machin Black Vein, Nevill's Llanelly, Aberdare, Fothergill's Aberdare, Rhoel Black Vein, Gellia, Cadoston, Teglar, Price's Tillery, Roca Rock Vein, Roca Black Vein, Russell's New Black Vein, Abernarn Black Vein, Eiled Vein, Dunraven or Forch Amman.

The contractor is to deliver the coals for the dockyard into such store as he shall be directed by the officers of the yard.
All the coals to be fresh raised, clean, good, merchantable, well conditioned; such as shall be approved of by the officers appointed to receive the same, and in every respect fit for Her Majesty's service.
Should the contractors fail in delivering all or any of the coals by the periods mentioned, and the captain superintendent thereby finds it necessary to purchase other coals in lieu thereof, the contractor is to pay all extra expenses which may be incurred by such purchase.
Rejected coals to be removed by and at the expense of the contractor. If not removed within 14 days, the officers of the yard may remove and charge him with all expenses.

With every delivery of coals for steam vessels, the contractor must deliver to the said officers a certificate from the person who actually shipped them, specifying the denominations of the coals, that they are the best description and quality known under that denomination, and that they were handpicked or properly screened, and made free from small coal and dust at the time of shipment; and no certificate will be recognised but that of the parties authorised to sign it at the collieries from which the coals are supplied.

Although particular quantities of the coals are to be delivered at stated periods, the respective officers shall be at liberty to receive a greater part, or the whole, at such times as they have room to stow them.
Every tender must be accompanied by a letter, and signed by two responsible persons, engaging to become bound with the persons tendering in the sum of £20 per 100 tons of coals for the due performance of the contract, and the letter must contain a reference to some person or persons well acquainted with the sufficiency of the parties offering to become bound, and persons in partnership with the contractor, or with each other, will not be accepted as sureties.

Tenders may be made for the supply of any one or more of the quantities of coals wanted for dockyard purposes only, or for steam vessels, or for the whole contract, and tenders must contain a separate price for each quantity offered.
Half the amount of stamps on contract and bond to be paid by the contractor.
The party or parties whose tender may be accepted will be required to have an authorised agent, or the party himself, to reside in Pembroke Dock.
GEORGE RAMSAY, Captain Superintendent.
Royal Dockyard, Pembroke Dock, August 24, 1861.

CONTRACT FOR WELSH COAL.—The Directors of the SOUTH-EASTERN RAILWAY COMPANY are PREPARED TO RECEIVE TENDERS for the SUPPLY of TEN THOUSAND TONS of WELSH COAL, suitable for locomotive purposes, to be delivered on to the company's line at Reading. Tenders to be sent in by the 18th September next, endorsed "Tender for Coal," addressed to the undersigned.
London Bridge Terminus, August 23, 1861.
S. SMILES, Sec.

Government School of Mines, Jermyn Street.

GOVERNMENT SCHOOL OF MINES, JERMYN STREET, LONDON.

DIRECTOR.—SIR RODERICK I. MURCHISON, D.C.L., &c.
The prospectus for the Session, commencing on the 7th October next, will be sent on application to the Registrar. The Courses of Instruction embrace Chemistry, by Dr. Hoffmann; Physics, by Prof. Tyndall; Natural History, by Prof. Huxley; Geology, by Prof. Ramsay; Mineralogy and Mining, by Mr. Warrington Smyth; Metallurgy, by Dr. Percy; and Applied Mechanics, by Prof. Willis. TRENHAM REEKS, Registrar.

Miner's Association of Cornwall and Devonshire.

MINER'S ASSOCIATION OF CORNWALL AND DEVONSHIRE.—It is PARTICULARLY REQUESTED THAT ALL PAPERS or COMMUNICATIONS intended to be brought before the Miner's Association at the annual meeting, appointed to be held at Falmouth, on the 18th of September, BE SENT BEFORE the 10th of SEPTEMBER, to the general honorary secretary, ROBERT HUNT, Foreth, near Redruth.—August 28, 1861.

THE BRITISH SLATE COMPANY (LIMITED).—NOTICE.

The FIRST ORDINARY GENERAL MEETING of the shareholders of this company will be HELD at their offices, No. 25, Clement's-lane, E.C., on WEDNESDAY, the 18th day of September, 1861, at Twelve o'clock precisely.
The books for the registration of transfer of shares are closed until after the above meeting.
By order, R. HILL, Sec. pro tem.
London, Sept. 4, 1861.

THE SLATE MOUNTAIN COMPANY (LIMITED).—NOTICE OF DIVIDEND.

The Directors of the above company hereby give notice that they have concluded an arrangement with a thoroughly responsible party to undertake the management of the company's operations in Wales; and have, at the same time, to inform the public that the MANAGER has undertaken to GUARANTEE to all shareholders in the company a DIVIDEND for the FIRST YEAR, and has lodged with the company's bankers an amount of cash more than sufficient to cover his guarantee.
By order, A. MAYOR, Secretary.
4, Lothbury, E.C.

THE SLATE MOUNTAIN COMPANY (LIMITED).

Capital £20,000, in 6000 shares of £5 each.
Deposit, £1 per share; and £1 upon allotment.
Registered pursuant to the Joint-Stock Companies Acts, limiting the liability of each shareholder to the amount of their subscriptions.
CHAIRMAN—Major-General MASON, Brompton.
DIRECTORS.

ALEXANDER CURRIE, Esq., Teignbridge, Newton Abbott.
JOSHUA FINNER, Esq., South American Chambers, Cecil-street, Strand.
Lord GORDON, Hampton, Surrey.
Colonel GEORGE M. GUMM, Beaumont-street, Portland-place.
JOSEPH HOPGOOD, Esq., Addison-road, Kensington, W.
Capt. JORDAN, Chertsey, Surrey.
EDWARD FREDK. LEES, Esq., F.L.S., 2, Walbrook, E.C.
JOHN WALKER, Esq., Kenilworth House, Cheltenham.

BANKERS—Bank of London, Threadneedle-street.
BROKERS—Messrs. Ross, Linsion, and Bedford, 4, Lothbury.
Henry Flint, Esq., Park-row, Leeds.
James Case, Esq., Liverpool.
H. W. Poutney, Esq., 5, Royal Exchange, Manchester.
Messrs. Stephens and Son, 44, Dame-street, Dublin.
Messrs. Adamson and Horne, 45, Marischal-street, Aberdeen.
Messrs. B. Massey and Son, Birmingham.
Messrs. T. and A. Fox, 61, Dame-street, Dublin.
Messrs. Orr and Co., Belfast.
SECRETARY (pro tem.)—Mr. Mayor.
OFFICES,—4, LOTHBURY, LONDON, E.C.

This company has been formed for the purpose of purchasing an unusually long lease or grant, to work certain veins of slate rock extending under about 100 acres, situated on the north-east side of a farm called Croeser Bach, in the parish of Llanfrothen, in the county of Merionethshire, and believed by competent judges to be the richest known slate deposit in all Wales.
With a working capital of £10,000 it is estimated that 7000 tons of slates can be made annually, which would realise a profit of about 45 per cent. per annum.
Mr. Robt. Hunt, F.R.S., Compiler of Mining Records for the Government, has recently made a calculation as to the average of the profits from the workings of slate quarries in Wales; he gives them at upwards of 50 per cent., and some of the large quarries, it is confidently affirmed, realise as much as 100 per cent.

To ensure subscribers from any loss, which often arises when a sufficient number of shares are not subscribed for, the directors bind themselves to return the whole of the deposit money, unless at least one-third of the shares be taken.
Applicants for shares, with a deposit of £1 per share, can be sent to the bankers, brokers, or to the secretary, at the company's offices.
Samples of the slate rock from the quarry can be seen at the offices, 4, Lothbury.
Full prospectus, with reports upon the quarry by one of the Government Geological Surveyors; Mr. Jones, the slate merchant in the City-road; Mr. William Griffiths, the manager of the Moelwyn Quarries; Capt. Silas Evans, of Orceva, manager of the Cragwort Mines; and other practical and experienced authorities, together with forms of application for shares, can be obtained from the secretary, at the company's offices, 4, Lothbury, or from any of the brokers.

THE SLATE MOUNTAIN COMPANY (LIMITED).—

Notice is hereby given that, owing to the numerous applications for shares already sent in, the Directors will meet to consider the same and MAKE THE REQUISITE ALLOTMENTS on FRIDAY, the 27th of September.
By order, A. MAYOR, Secretary.
Offices, 4, Lothbury.

THE SLATE MOUNTAIN COMPANY (LIMITED).—

ALL APPLICATIONS FOR SHARES in this company MUST BE SENT in to the Brokers or Secretary ON OR BEFORE THURSDAY, the 26th of September.
By order, A. MAYOR, Secretary.

CANADA MINING AGENCY ASSOCIATION.

The recent discoveries of important and valuable deposits of gold, copper, lead, and other useful metals and minerals in Lower Canada, appear to present a new and extensive field for the profitable investment of capital, both in actual mining and in the requisite preliminary researches and other operations. It has been ascertained by the provincial geologists that the metalliferous region in which such deposits are to be found extends over about 15,000 square miles in Canada, and is of the same geological formation with the mineral territory on the south shore of Lake Superior, and with the great Appalachian Chain in which, throughout the Eastern States of the neighbouring Union, mining operations (especially for the more precious metals) have been long and successfully prosecuted. The mineral deposits in Lower Canada acquire a greatly increased value from the fact that they are for the most part in close proximity to the Grand Trunk Railway and its branches, and to ocean navigation.

The very partial and imperfect explorations hitherto made, extending over a tract of about 7000 square miles, have revealed the existence of about 130 distinct localities where actual discoveries of copper and other valuable ores have been made. Some of these are of undoubted importance for mining purposes, while in one instance (that of the well-known Acton Mine) the deposit ranks among the richest which the world has yet seen. These discoveries naturally produce a desire for further explorations of the mineral deposits of this extensive area, and would seem to justify a reasonable expectation of success in such an undertaking. The expenditure required for conducting explorations in a thorough and systematic manner is so great as in most instances to preclude their being undertaken by individuals; while the circumstance that a single fortunate discovery will amply compensate for the loss upon many less successful operations, points to the principle of association as peculiarly adapted to the successful prosecution of such enterprises.

The present circumstances of Canada, however desirable it may be that this department of her national resources should receive its full development, it is not to be expected that adequate means can be raised in this country for mining on a large scale; but it is believed that capital could be attracted hither for that purpose, if a permanent and reliable medium of communication could be established between proprietors of mineral lands in Canada and capitalists in England and in America, by means of which accurate and authentic information could be procured, either by holders of mining locations or by intending purchasers.

It is, therefore, proposed that a company be formed with limited liability for the purpose of developing the mineral wealth of this country, and of furthering the acquisition and working of mineral deposits by capitalists, either on this Continent or in Europe; and it is suggested that the precise nature, objects, and character of the projected association should be the following:—

- 1.—That the company be called the Canadian Mining Agency Association.
- 2.—That the capital of the company be £100,000, in shares of £10 each, with power to increase it to £500,000.
- 3.—That the company be incorporated under the general Act for that purpose, but that a special Act of Incorporation be ultimately obtained.
- 4.—It shall be the business of the company to undertake the exploration of localities in Canada where indications of mineral deposits are found or may be expected; to acquire lands or mining rights in such localities, and to dispose of them as they may think proper; to act as agents for the purchase, sale, or lease of mining locations; to examine for third parties locations where indications of mineral deposits are to be found, or are supposed to exist; and generally to transact all business relating to the establishment of mines in Canada.
- 5.—It is proposed that it shall be competent for the company, with the consent of shareholders representing at least three-fourths of its subscribed stock, to enter upon the business of mining; but mining operations for the production and sale of ore shall not form a part of its ordinary business.
- 6.—It is proposed that an efficient staff of explorers be employed, and that offices for the business purposes of the company be opened in Canada, in England, and in the United States, where plans and specimens of minerals shall be kept, and all requisite information registered.
- 7.—The chief place of business of the company shall be at Montreal.
- 8.—It is proposed that a subscription list be at once opened, and that so soon as \$20,000 of stock shall have been subscribed a meeting shall be held for the election of provisional directors, to hold office till the whole of the capital is subscribed, and for the general organisation of the company. But until the full amount of \$100,000 of capital stock be subscribed *bona fide* no calls shall be made, nor shall the company commence operations in any way.

The subscriptions will be subject to diminution at the discretion of the directors.
A book for the subscription of stock in this company is kept at the office of Messrs. Willson and Robb, mining engineers, 53, St. Francois Xavier-street.
Montreal, August 15, 1861.

ASSAY OFFICE AND LABORATORIES.

MESSRS. MITCHELL AND RICKARD beg respectfully to inform their friends that they have REMOVED from Dunning's-alley to No. 29, GREAT ST. HELEN'S, BISHOPSGATE STREET WITHIN, where the business will be conducted as usual, in all classes of mineralogical, agricultural, and commercial assays and analyses, at moderate fees.
Special instruction to gentlemen desirous of acquainting themselves with expeditious methods of ascertaining the value of ores, manures, manufactured and colonial products, &c., without having recourse to professional assistance.

PROSPECTUS OF THE BAHIA STEAM NAVIGATION COMPANY (LIMITED).

Capital £160,000, in 16,000 shares of £10 each.
Deposit on application, 10s. per share; and 10s. on allotment.
Three months' notice will be given of future calls, which will in no case exceed 30s. each per share.

DIRECTORS.
J. ROSCOE ALLEN, Esq., Oak House, Fenchurch-street, London.
WENTWORTH CLAY, Esq., 11, New Broad-street, London.
G. K. HUXLEY, Esq., North Bank, Regent's Park, London.
CHARLES LANE, Esq., Liverpool.
JAMES OVEREND, Esq., Upper Clapton, London.
EDMUND PELL THOMSON, Esq. (firm of Ormerod, Thomson, and Jarvis), Manchester.
JOHN WATSON, Esq., 47, Parliament-st., and Albion Lodge, Stamford Hill, London.
(With power to add to their number.)

BANKERS—Messrs. Hankey, Fenchurch-street, London.
SOLICITORS—Messrs. Hargrove and Frier, Pall-mall, Westminster.
STOCKBROKERS—Messrs. James Shepherd, Esq., Auction Mart, London.
SHIPBROKERS—Messrs. Alfred Brett and Co., 160, Leadenhall-street, London.
SECRETARY—H. F. Wilson, Esq.
TEMPORARY OFFICES—36, CANNON STREET, LONDON, E.C.

The Bahia Steam Navigation Company (Limited) is established for the purpose of affording more adequate accommodation to the increasing commerce of the Empire of Brazil, more particularly the province of Bahia; which imperatively demands more rapid means of passenger communication, and greater facilities for the conveyance of produce; and for bringing its extensive cotton land into cultivation.

Two steam ship companies have been successfully engaged in the Bahia trade and passenger traffic for some time—namely, the Santa Cruz and the Bom Fin Companies; the first affords bi-monthly passages between the City of Bahia and the towns of Macao on the north, and Santos on the south, calling at the intermediate ports of Seripe, Cotigubas, Ilheus, Canavieiras, and Porto Seguro; and the second provides for the local navigation of the Bay of Bahia, including communication between the City of Bahia and the numerous and populous towns situated on the borders of the bay.

For the special encouragement and support of these two companies, the Imperial and Provincial Governments have granted exclusive navigation privileges and liberal annual subsidies, which have fifteen years to run; but the great increase of passenger traffic and of freight has, at length, become so much in excess of the means possessed by the Santa Cruz and Bom Fin Companies, as to render a corresponding addition of steamers, and collateral resources, absolutely indispensable; and it has been, therefore, arranged that the property and interests of these companies shall be merged in the Bahia Steam Navigation Company (Limited), with more adequate capital at its command.

The capital of the company will provide ample funds to cover the cost of the ten steamers now employed upon the routes before mentioned—viz., three timber-built steamers of from 450 to 500 tons, and 110 horse-power each; five smaller steamers employed in the navigation of the Bay of Bahia; two new iron-built steamers of 700 tons and 120 horse-power each, recently built in England expressly for the company; and two steam-tugs and twelve large iron barges, which, under the exclusive navigation privileges belonging to this company, by the arrangements referred to, will convey passengers and goods from the Bahia and San Francisco Railway terminus to the City of Bahia; as well as two further iron-built steamers for the Bay of Bahia traffic, which have become more urgently required since the opening of the first section of the railway, the entire line of which will be opened in the course of next year, and thus materially add to the demand for passenger and goods conveyance.

It will be correctly concluded that profitable returns have been made during the few years in which the two initiatory companies have been in operation; and that, the City of Bahia, with its population of nearly 200,000, being the centre point of communication with the entire traffic, the divisible returns will increase, with additional steamers, much beyond the mere ratio of extended trade.

Assuming, as a basis of calculation, that the receipts of this company's steamers, from ordinary traffic, will simply pay their working expenses, and charges for insurance, depreciation, repairs, &c., the directors have their confidence in it, as a commercial undertaking, amply established by the fact, that the subsidies alone are sufficient to pay about 12½ per cent. upon the entire capital of the company; as the annual amount of the grants from the Imperial Government of Brazil, and the Provincial Governments of Bahia, Seripe, and Alagoas, is 180,000 mil reis, nearly £20,000, regularly made by monthly payments. But the directors feel themselves warranted in expressing their conviction that the dividends of the shareholders will be considerably enhanced by the absolute working profits of the fleet.

Provisional arrangements have been made for the transfer of this company of the Imperial concessions and privileges, and of the floating and other property as well as local interests of the companies mentioned, on very favourable terms.
Applications for shares, in the annexed form, addressed to the directors, may be sent to Mr. H. F. Wilson, secretary, at the temporary offices of the company, or to the broker; but no application will be considered unless a deposit of 10s. for each share applied for shall have been previously made with the bankers of the company.

FORM OF APPLICATION FOR SHARES.
To the Directors of the Bahia Steam Navigation Company (Limited).
GENTLEMEN,—I request that you will allot me _____ shares of £10 each in the above company, having paid your bankers the deposit of 10s. per share thereon, and in consideration of such allotment, or any less number you may appropriate to me, I hereby undertake to pay future calls thereon, and to execute the Articles of Association when required.

Name in full _____
Residence _____
Profession or trade _____
Place of business _____
Dated this _____ day of _____ 18____

EAST WHEEL MARTHA MINING COMPANY (LIMITED).

Capital £15,000, in 6000 shares of £2 10s. each.
5s. per share to be paid upon application, and 5s. upon allotment. All future calls not to exceed 5s. per share, and not often than quarterly.

DIRECTORS.
GEORGE SEARBY, Esq., Crown-court, Threadneedle-street, London.
EDGAR WILLIAMS Y. BROW, Esq., 14, Arundel-square, London.
JAMES LANE, Esq., 44, Threadneedle-street, London.
T. C. HAWKINS, Esq., 9, Broad-street, Oxford.
THOS. COOPER SMITH, Esq., Warfield-court, Throgmorton-street.
BANKERS—London and County Bank.
SOLICITOR—Frederick Wm. Snell, Esq., 1, George-street, Mansion House.
AUDITORS—Messrs. Cooper Brothers and Co., 13, George-street, Mansion House, London.
CONSULTING AGENT—Capt. Joseph Richards.

OFFICES—23, MARK LANE, CITY, LONDON, E.C.
The object of this company is to purchase and work the mineral ground lying between the Devon Great Consols and the Great Wheel Martha.

There are few instances of mining where success would appear to be more certain than in this case, as this mine is situated west of the Devon Great Consols, and east of the Great Wheel Martha. The success of the former mine is too well known to the public to require much comment, but it may be stated that it has returned in dividends nearly £1,000,000, on an original capital of £1204. The Great Wheel Martha Mine is one of the most successful instances of an old mine being reworked, the company having sold in a few months ores to the amount of nearly £3500, and having at the present time about 1000 tons of ore broken and being prepared for sale, while the reserves in the different levels amount to more than 5000 tons, and there is no doubt that the mine will soon commence paying good and lasting dividends. All this is the produce of one lode only, which has held continuously from the upper to the lower level, and is now in the bottom level 16 ft. wide, a fine course of ore. This lode is by practical men considered to be a continuation of the Devon Great Consols lode, and as the East Wheel Martha Mine is situated exactly between the two mines, there cannot be any doubt of this mine having the same lode running through the entire length of the set, from east to west; and there is one great fact to be borne in mind, that the further the levels at Great Wheel Martha are driven east the richer the lode becomes; and as the lode is dipping east and passes through this property, there can be no doubt of the mine proving as rich as its neighbours. This mine will be worked by the Great Wheel Martha, as the levels in that mine approach it eastward, a fact of the greatest importance as regards the expenditure and development of the mineral wealth contained in this property.

This mine has been worked and a large capital expended by a previous company, but having sunk their shaft down in a valley, where they were inundated with water from the higher ground above them, they were compelled to stop. They had just discovered that they had sunk their shaft too far south to cut the Devon Great Consols lode, which passes through the high ground above, and were making great exertions by driving a level northward to intersect this lode, but want of sufficient steam power, and the shareholders not being inclined to subscribe further, the mine was abandoned.

Arrangements have been made with the present proprietors of the mine in purchase of this property, the proprietors to receive 2500 shares, free of all calls, and £1500 in cash, the latter to be returned to this company by an allowance out of the dues as the ores are raised and sold. This return to be made is a fact of importance, proving that the proprietors have every confidence in the mine making large returns, and bringing them in a large revenue.

Application for prospectuses and plans to be made to Mr. E. EVANS, 23, Moorgate-street, London.

The following is a report from Captain Joseph Richards, who, being connected with the underground workings at the Devon Great Consols, was well acquainted with the run of the lodes and their connection with this property, and quite capable of giving an opinion on the future prospects of this mine.
Aug. 3, 1861.—I beg to hand you my report on this mine. It is situated directly east and adjoining Great Wheel Martha, where large returns of copper ore are being made, and the Devon Great Consols is in a direct line east of East Wheel Martha, so that this mine may be considered to be in a very first-rate position: the great lode of Wheel Martha must run directly through the set, as well as several other lodes of very great promise. There have been shafts sunk and levels driven in East Wheel Martha, and although they cannot now be seen until the water is in, I am assured that the prospects were such underneath as might be fully expected from the very great and good appearance of the lodes at surface. I am fully justified in highly recommending East Wheel Martha as a mining property of very much more than ordinary value as a speculation, and I am of opinion that those who may invest therein will have no cause to regret it, but, on the contrary, have every reason to congratulate themselves on the advisable selection of this extensive and exceedingly tempting property as an investment, containing as it does the necessary elements of success. In addition to the very fine appearances of the lodes themselves, there are cross-courses and intersections thereof, with the lodes attendant on which are often found the most splendid and valuable courses of ore. I will conclude by advising you to commence operations as soon as you can manage to do so, and I am exceedingly sanguine of the results proving in every way all I have said and intended to convey relative thereto. If you will refer to my report on Great Wheel Martha of Oct. 3, 1859, you will perceive that the results are bearing out what I then said of that property, and in East Wheel Martha you have a mine the prospects of which are not exceeded in my belief in any mine in the two counties, and I unhesitatingly advise all and every one who can take an interest therein.

JOSEPH RICHARDS.
FORM OF APPLICATION FOR SHARES.
Shares £2 10s. each. Deposit on application, 5s. per share.
To the Directors of the East Wheel Martha Mining Company (Limited).
GENTLEMEN,—Having paid £ _____ to your credit at the London and County Bank, Threadneedle-street, City, I request that you will allot me _____ shares in the East Wheel Martha Mining Company (Limited), and I hereby agree to accept such shares, or any less number that may be allotted to me, subject to the provisions of the Joint-Stock Companies Act.
Name _____
Address _____
Date _____

EAST WHEEL MARTHA MINING COMPANY (LIMITED).
NOTICE.—NO FURTHER APPLICATIONS FOR SHARES WILL BE RECEIVED AFTER FRIDAY NEXT, the 13th inst. E. EVANS.

WILDBERG GREAT CONSOLIDATED MINING COMPANY—PUBLIC SALE.—THE MINING PROPERTY, SMELTING WORKS, and other EXTENSIVE ESTABLISHMENTS, together with the whole of the TOOLS, PLANT, and APPLIANCES belonging to the above company, containing, with the grant attached to them, about 117 acres (Morgen) will be exposed at PUBLIC SALE to the highest bidder, at Cologne, on Monday, September 16, 1861, by the undersigned notary, Mr. Eglinger, at his office, No. 4, Richmond Strasse.

The mines, including a large number of consolidated concessions, are situated at Wildberg, about 10 German miles from Cologne, and within 4 miles (German) from a station on the railway opened between Deutz (Cologne) and Witten.
The company has expended more than £40,000 sterling in sinking shafts, in explorations, in the purchase of machinery, and in the erection of smelting works. The whole has been arranged with the most modern improvements, and is in excellent condition. The machinery on the mine is capable of draining it to an additional depth of at least 20 fms., whilst the smelting works are calculated to treat from 250 to 300 tons of lead ore per month. There is also ample house accommodation for the miners and workpeople situated on the property, and belonging to the company.

The silver-lead mines of Wildberg are among the most extensive and important in Germany, and have produced lead and silver to the value of £65,000 sterling during the three last years of working.

For further particulars, apply by letter, post paid—in London, to Messrs. PHILLIPS and DARLINGTON, at the company's office, No. 26, Gresham-street, E.C.; or to Messrs. AMORY, THAYNERS, and SMITH, Throgmorton-street, E.C.; and at Cologne, to the office of the undersigned notary, W. EGLINGER, Notary, Cologne, August 12, 1861.

SALE OF VALUABLE FREEHOLD ESTATE.
IRONWORKS and STOCK IN TRADE, &c., at BECK HOLE, near GROSSMONT, and about eight miles from WHITBY, in YORKSHIRE.

MESSRS. HEPPEL and SON WILL SELL, BY AUCTION, on Wednesday, the 18th day of September, 1861, at Two o'clock in the afternoon, at the house of Mr. Gidley, the White Horse Hotel, in Boar-lane, in Leeds, subject to such conditions as shall be produced at the time and place of sale.

All that FREEHOLD ESTATE, consisting of about TWENTY-SIX AND A HALF ACRES of LAND, and THIRTY THREE NEW and SUBSTANTIAL STONE BUILT COTTAGES, several other cottages and dwelling-houses, with the OUTBUILDINGS and APPURTENANCES.

Also, all those EXTENSIVE IRONWORKS, for the manufacture of iron, consisting of BLAST FURNACES, iron bolsters, worked by pumps; hot air ovens, TWO STEAM ENGINES, BOILERS, ENGINE and BOILER HOUSES, weigh house, blacksmiths', carpenters', and other workshops, offices and premises, together with the commensal and other rights incident to the estate, and all other the real estate, the property of the Whitby Iron Company (Limited). The purchasers of the estate will be required also to purchase of the vendors, at a valuation to be determined in the manner set forth in the conditions of sale, the following, viz.:

All the STOCK IN TRADE and EFFECTS of the WHITBY IRON COMPANY (LIMITED), in and about the above-mentioned premises, consisting of about THIRTY EIGHT TONS of PIG-IRON, upwards of EIGHT THOUSAND TONS of CALCINED IRONSTONE, a quantity of wood, timber, bricks, water-wheel, coals, slack, coke, hematite ore, iron slag wares, iron barrows, wrought-iron, wood bridges, sleepers, bridge rails, and castings, drain tubes, utensils, implements, stock of hay, cats, cattle, and other farming produce, office furniture and utensils, and all other effects and property whatsoever in and upon the premises of which the Whitby Iron Company (Limited) are owners.

Further particulars of the estates and premises, and of the effects, will be given by catalogue, distinguishing those to be sold by auction and those to be purchased by valuation, and may be had, price sixpence, on application to the auctioneers, in Trinity-street, in Leeds aforesaid, on or after Monday, the 11th day of September, 1861. The premises are situated at or near to Beck Hole and Groomont, about eight miles from Whitby, in the North Riding of the county of York, are contiguous to the North-Eastern Railway, and the station there, with sidings to communicate, are well supplied with water, abundant with quarries of stone, beds of iron ore, and are in immediate contiguity to other large and valuable beds of iron ore, and the whole are advantageously located for carrying on an extensive manufacture of iron.

For further information, apply to HARR, NELSON, and BARR, solicitors, Leeds.

MESSRS. FISHER and SON WILL SELL, BY AUCTION, at the house of Mrs. Cork, the Swan Hotel, in Bolton-le-Moors, in the county of Lancashire, on Wednesday, the 25th day of September, 1861, at Six o'clock in the evening, in and about the premises, the following, viz.:

The premises are situated at or near to Beck Hole and Groomont, about eight miles from Whitby, in the North Riding of the county of York, are contiguous to the North-Eastern Railway, and the station there, with sidings to communicate, are well supplied with water, abundant with quarries of stone, beds of iron ore, and are in immediate contiguity to other large and valuable beds of iron ore, and the whole are advantageously located for carrying on an extensive manufacture of iron.

Several of the WORKSHOPS have been recently entirely rebuilt, and the establishment and working plant have been greatly improved and remodelled during the last few years.

The BUILDINGS comprise large erecting, boring, planing, turning, fitting, and other shops; loam, green sand and brass foundries, boiler shops, forge, smithies, pattern rooms, &c.

The COUNTING-HOUSES and DRAWING OFFICES are large, commodious, well built, of recent erection, and replete with all necessary fixtures, and office furniture and apparatus.

The MANAGER'S HOUSE (adjoining part of the north side of the works) contains a spacious hall, two parlours, two kitchens, five bedrooms, and other conveniences; there are two houses for workmen, and another house for the watch-keeper.

The OUTBUILDINGS comprise a coach-house, saddle-house, stabling for 12 horses, and all other requisite out-buildings and appurtenances.

The WORKING PLANT consists of FOUR STEAM ENGINES and BOILERS for driving same, with turning lathes, planing, boring, slotting, screwing, drilling, grooving, and wheel-cutting machines, cranes, capstans, moulding boxes, boiler-making machines, and tools, fans, smiths' hammers, weighing machines, luries, gas, steam, and water pipes, railways, and all other requisite machinery, tools, implements, and utensils required in a large engineering and millwright establishment.

The PATTERNS include about 1100 of spur, mitre, and bevel wheels, a large assortment of stationary, portable, and marine engines, water-wheels, hydraulic presses, dredging machines, gas apparatus, cranes, bridges, sugar mills, sugar pans, saw mills, pulleys, and general millwork, blanchers, printers, colliery, and other work connected with the requirements of the manufacturing business of the district.

The WORKS are adapted for the employment of from 600 to 800 men, and have been in existence above 60 years.

The property may be viewed on application to JOHN HOWARD, Esq., on the premises, and further particulars may be obtained from him, and on application to Messrs. RAYSON and AMITEAD, solicitors, Bolton, at whose offices a plan of the premises may be seen.

TO BE SOLD, BY AUCTION, on Tuesday, the 10th Sept. next, by

Two o'clock in the afternoon, on the mine, in the parish of Crowan, Cornwall, in One Lot, NEW WHEEL HENDER MINE and MATERIALS, consisting of one 50 in. cylinder ENGINE, with BOILER about 11 tons; capstan, shears, 2 balance and 1 angle bolt; 230 fms. of wood rods, 7 by 6 in., with plates, bolts, &c.; 16 9 in. 11 in. pumps, workings and clack seat pieces to match; 7 9 ft. 4 in. ditto; 3 9 ft. 8 in. 9 in. pumps; 2 horse whims, chain, ropes, and kibbles; 85 fms. of ladders, iron and wood bars; 3 clatters, casings and dividings; smiths' bellows, anvils, smiths and miners' tools, together with the account-house furniture, and a large quantity of timber, iron, and other useful articles.

For view of the same, apply to the captain on the mine; and for further particulars, to Capt. WILLIAM RICHARDS, Bank House, Redruth.—Dated August 28, 1861.

WHEEL MARY GREAT CONSOLS MINE.

TO BE SOLD, BY TENDER, in One Lot, all that VALUABLE COPPER MINE, known as the WHEEL MARY GREAT CONSOLS MINE, situated at or near ST. NEOT, LISKEARD, together with the EXTENSIVE PLANT, including the valuable 60 in. cylinder PUMPING ENGINE, WATER WHEELS, MACHINERY, and all necessary materials required for the further prosecution of the mine.

And also all the INTEREST in the LEASES granted to the present company for the purpose of getting ore under the lands of the Rev. James Glencross, called the AMBROSE LAKE SETT; James Michell, Esq., called the LAMPEN SETT; and Messrs. Bolitho and Foster, called the HIGHER AND LOWER COOMBE HOUSE SETT.

The large quantity of ore which will be raised during the last 18 months, and the present healthy appearance of the mine, will be no small inducement to parties desirous to meet with a promising speculation.

Tenders will be received by JOHN BROWN, land and mineral agent, Rose Hill, Chesterfield, Derbyshire.—August 28, 1861.

FESTINIOG, NORTH WALES.—THE LEASE OF A SLATE QUARRY in the above locality is TO BE DISPOSED OF. It includes upwards of SIX HUNDRED ACRES of GROUND, and by three levels of 75, 50, and 30 yards respectively has been PROVED to have FOUR LARGE VEINS of SLATE ROCK of SPLENDID QUALITY and COLOUR. The ground affords unusual facilities for the development of the works, is situated within 1½ mile of the Festiniog and Portmadoc Railway, and is unquestionably a very valuable property. Want of capital is the cause of sale. All applications must be accompanied with a reference to a London bank, or they will not be attended to.—For particulars, apply to WM. DAVIES, Festiniog, via Carnarvon, North Wales.

NEW COLLIERY, NAILSEA, NEAR BRISTOL.—FOR SALE, BY PRIVATE CONTRACT, the WHOLE of the PLANT and MATERIALS at the above colliery, comprising—

ONE HIGH PRESSURE DIRECT ACTING PUMPING ENGINE, cylinder 45 in. in diameter, and 10 ft. stroke.

ONE HIGH PRESSURE WINDING ENGINE and gear, cylinder 12 in. diameter.

ONE HIGH PRESSURE WINDING ENGINE, cylinder 16 in. diameter.

THREE CYLINDRICAL BOILERS, 41 ft. by 6 ft.

ONE CYLINDRICAL BOILER, 18 ft. by 4 ft.

ONE CYLINDRICAL BOILER, 20 ft. by 3 ft. 6 in.

Hammered iron pumping cranks, T bolts, 19 in., 14½ in., 5½ in., 5 in., and 4½ in. forcing, lifting, and hand pumps; hammered iron straps, double straps and tail joints, buckets, clacks, wrought-iron clatters, lifting screws, chains, large capstan, double-power crab winch, 80 fms. 10½ capstan rope, 8 in. capstan and other ropes, blocks, boring tools, wrought-iron air pipes, tram plates, smiths' bellows and tools, wagons, carts, &c.

To view, apply at the colliery; and for all further particulars, to BODDAN CASTLE, Esq., No. 20, Corn-street, Bristol.

TO BE LET, for such a term as may be agreed on, from 25th March next, the LONG BENTON COLLIERY, near Newcastle-on-Tyne, the property of the Right Hon. the Earl of Carlisle.

At this colliery the High Main Seam has been carefully tubed off, and the shafts sunk to the Low Main Seam, which is now in working.

The engines, screens, and other stock upon the colliery may be taken at a valuation.

Further information can be obtained on application to M. LIDDELL, Esq., Hedgerly, Newcastle.—September 2, 1861.

HORIZONTAL STEAM ENGINES FOR SALE, one each of 14, 17, and 20 in. cylinders, 38 in. stroke, quite new. They are especially adapted for mining purposes, and are very substantially made. Also, several of from 6 to 8 horse power.—Apply to Messrs. E. PAGE and Co., Engineers, Laurence Pountney-place, Laurence Pountney-hill, Cannon-street, E.C.

CREASE'S PATENT EXCAVATING MACHINERY.

for SUPERSEDING the SLOW and EXPENSIVE USE of MANUAL LABOUR in SINKING SHAFTS, DRIVING LEVELS, TUNNELLING, &c., can now be supplied to the public. The machinery is guaranteed to sink through any rock of average hardness at a minimum rate of 1 in. per day, and to sink shafts at the rate of 2 fms. in three days.

Applications to be addressed to Mr. GEORGE T. CURTIS (sole agent), 17, Gracechurch-street, London, E.C.

By providing the power of calculating the time and cost to explore a certain depth and extent of ground, speculation in mining will be assimilated to commercial pursuits, with this unmistakable advantage—that when the ground has been once carefully and judiciously selected, and operations properly and systematically carried out for its development, there would be far less chance of unsatisfactory results than are met with by merchants and manufacturers in the usual routine of their business. As this important invention must beneficially interest the landowners, mine proprietors, merchants, and miners, we opine it will meet with immediate adoption.—Mining Journal.

EDWARDS'S PATENT MINERAL ORE AND COAL

WASHING MACHINE.—This is by far the MOST ECONOMICAL, both in cost and in working, as well as the MOST DURABLE and EFFICIENT MACHINE made in the Kingdom, capable of washing from 25 to 50 tons per diem (according to quality).—Full particulars, testimonials, &c., may be obtained from E. EDWARDS, Esq., C.E., Beaufort-buildings, Strand, London.

IMPORTANT TO MINING

SMYTH and WASLEY'S MACHINERY FOR SPALLING AND SEPARATING THE ORE FROM THE STONE, &c.

A NEW and USEFUL MACHINE, termed a "PREPARATOR," has recently been patented by Messrs. SMYTH and WASLEY, having for its objects the SPALLING and SEPARATING the ORE FROM THE STONE, and FORMING it into PROPER SIZES for PICKING, JIGGING, CRUSHING, &c., according to the nature and quality of the stuff. The construction is simple, and the machine can be erected in connection with other machinery, as driving-power, for about £15 per hammer. Two, three, five, or any other number of hammers may be had, as required. Four of from 4 to 5 cwt. each will break about 1000 tons per month.

This invention well deserves public notice, as it will decidedly effect an economy of 70 per cent. over manual labour, together with a great advantage in the dispatch of work, performing it far better than any other mode yet introduced; and several practical gentlemen who have seen it at work at the Coed Mawr Pool Mines fully corroborate the above statement.

The charge for patent right will be on the most advantageous terms. The largest mine in the Kingdom may expend its full use at £5 per month, and the charge to be reduced proportionately, according to the magnitude of the works; or the patent may be sold off to each mine district, or county, as might be agreed on.

For further particulars, apply to Messrs. SMYTH and WASLEY, Coed Mawr Pool Mine, Llanrwst, North Wales. The model may be seen at the offices of GEO. I. SOREN, Esq., 25a, Bucklersbury, E.C., London.

IMPORTANT TO ROAD CONTRACTORS.

EFFICIENT and ECONOMICAL STONE-BREAKING MACHINERY.

A NEW and USEFUL MACHINE has recently been patented by Messrs. SMYTH and WASLEY, of the Coed Mawr Pool Mines, which is WELL ADAPTED for BREAKING STONES FOR THE ROAD; the construction being simple, and the machine being worked either by steam or water-power, and in connection with other machinery, as driving power. It can be erected at an outlay of £15 per hammer, any number being adapted, as might be required. Four hammers of 4 cwt. working daily are calculated to break 1000 tons of stone per month, and one man and one boy can serve it and also keep it clear.

This machine is well deserving public notice, as it will decidedly effect an economy of 70 per cent. over manual labour, and will prepare the stuff far better than by breaking with ordinary hammers, forming it into proper sizes for coating the roads; the first size being large pieces, to lay over the rough parts; and the second size being small pieces, which will form a smooth surface for the carriages, give excellent "bond," and prove far more durable than rough, lumpy stone-roads, which soon become like powder and wash off with rain. There is also material advantage in the dispatch of the work.

Several practical gentlemen who have seen the machinery at work at the Coed Mawr Pool Mines, near Llanrwst, North Wales, can corroborate the above statement. They highly approve of the stuff which was recently broken by this newly-invented machinery and laid over the road.

The charge for the patent right will be on the most advantageous terms, to be paid quarterly; or the right can be sold off to each county or district, as may be agreed upon.

For further particulars, apply to Messrs. SMYTH and WASLEY, Coed Mawr Pool Mine, Llanrwst, North Wales. The model may be seen at the offices of GEO. I. SOREN, Esq., 25a, Bucklersbury, E.C., London.

WALKER'S STAMPING MACHINES and STEAM

ENGINES, for REDUCING ALL KINDS of MINERAL ORES to IMPALPABLE POWDER, have been in use for these last ten years in all the leading mines of the United Kingdom and the Colonies of the British Empire; as have also his PATENT PUMPS and WATER LIFTS, and for economy of working and durability cannot be equalled. MANUFACTORY, 17, COWER STREET, CITY ROAD, LONDON.

CORNISH BORER STEEL.—Upwards of ONE HUNDRED

AND SIXTY MINES are SUPPLIED with this STEEL, and the DEMAND for it is RAPIDLY INCREASING.—For terms, apply to R. MURPHY and Co., Forest Steel Works, near Coleford, Gloucestershire.

London Agent.—Mr. W. T. HENDRY, 71, Cannon-street West, E.C.

DODDS' IRON and STEEL PATENT LICENSING

COMPANY (LIMITED).

This company is PREPARED to GRANT LICENSES on moderate terms for the USE of their PATENT for STEELING RAILS, POINTS, CROSSINGS, MACHINERY, and EVERY DESCRIPTION of IRONWORK.

The process, which is exceedingly reasonable in cost, and gives the most extraordinary durability to the material, has been highly approved of by the following gentlemen, firms, and companies, several of whom have extensively adopted the valuable improvement—

ROBERT STEPHENSON, Esq.
JOHN BOURNE, Esq.
J. FERRING, Esq.

THOS. E. HARRISON, Esq.
THE GREAT INDIAN PENINSULA RAILWAY COMPANY.

THE NORTH-EASTERN RAILWAY COMPANY.
Messrs. STEPHENSON and CO.

THE EAST LANCASHIRE RAILWAY COMPANY.
THE GREAT NORTH-EASTERN RAILWAY COMPANY.

THE MIDLAND RAILWAY COMPANY.
THE METROPOLITAN RAILWAY COMPANY have ordered a large quantity of rails by this process.

THE FOLLOWING FIRMS are PREPARED to EXECUTE ORDERS under the company's patent:—

Messrs. S. BEALE and CO., PARK GATE, ROTHERHAM.

Messrs. DODDS and SON, ROTHERHAM.

Messrs. LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE.

THE EBBW VALE COMPANY, SOUTH WALES.

Messrs. LEVICK AND SIMON, NEWPORT, MONMOUTHSHIRE.

Messrs. LLOYD, FOSTERS, and CO., WEDNESBURY.

THE ISCA FOUNDRY COMPANY, NEWPORT, MONMOUTHSHIRE.

Applications for Licenses can be made to R. COOK, Esq., at the company's offices, No. 7, St. Giles-lane, London, E.C., where also testimonials and other information may be obtained.

BEDFORD IRONWORKS, TAVISTOCK.

NICHOLLS, WILLIAMS, AND CO. have generally a GOOD STOCK OF SECOND-HAND MINING MATERIALS FOR SALE, including ironwork for a water-wheel, 40 ft. diameter, 2½ ft. breast. They also MANUFACTURE STEAM ENGINES of every description on the newest principle. Castings and wrought-iron work made at the shortest notice. Machinery sent to all parts of the world. Steam boilers and chains warranted of the best description.

BAILEY'S PATENT STEAM GAUGE.—This truly valuable invention is most undoubtedly the only gauge ever invented not affected by those atmospheric changes and many other evil influences, which are the cause of all spring, mercurial, and compressed air gauges.

The grand principle of the gauge being founded upon that sublime law of nature, "GRAVITY," which, like all other natural laws, is unerring and unchangeable—it must continue to indicate correctly to an indefinite period of time.

After most critical trials and examinations by some of the most eminent locomotive and stationary engineers, mining and manufacturing companies in this kingdom, it is pronounced by them to be "THE ONLY TRULY INDICATING GAUGE NOW IN EXISTENCE."

HEAD OFFICES: 30, COOPER STREET, MANCHESTER. Mr. Wm. Tate, Sole Wholesale Agent.

ALBION TURRET CLOCK WORKS, SALFORD, MANCHESTER.

INCORPORATION OF STEAM BOILERS.—EASTON'S PATENT BOILER FLUID EFFECTUALLY REMOVES AND PREVENTS INCORPORATION IN STEAM BOILERS, WITHOUT INJURY TO THE METAL, WITH GREAT SAVING IN FUEL, AND WITH LESS LIABILITY TO ACCIDENT FROM EXPLOSION. It is used by Her Majesty's Steam Storehouses, Woolwich Arsenal, Honourable Corporation of Trinity House, Tower of London, India Store Department, by the principal Steam Packet Companies of London, Liverpool, Southampton, Hull, &c., and by engineers, builders, railway companies, and manufacturers throughout the country.

Testimonials from eminent engineers, boiler makers, and manufacturers, with full particulars will be forwarded on application to P. S. EASTON and G. SPRINGFIELD, sole manufacturers and patentees, Nos. 37, 38, and 39, Wapping-wall, London, E.

AGENTS IN GREAT BRITAIN.

Aberdeen, Mr. James F. Wood. Ashton-under-Lyme, Mr. S. A. Fielden. Belfast, Mr. W. T. Matier, C.E. Birmingham, Mr. Adam Dixon. Chester, Mr. W. A. Rowland. Devonport, Mr. Cornelius Boulds. Dublin, Mr. Wm. Fith. Frome, Mr. W. B. Harvey, Chemist. Glasgow, Mr. W. M. Nutrie. Hartlepool, Mr. W. T. Cheesman, West. Hull, Messrs. A. L. Fleming and Co.

Leeds, Mr. J. C. P. Westwood. Leicester, Mr. Benjamin Pochin. Liverpool, Mr. J. McInnes. Manchester, Messrs. Morris and Sutton. Nottingham, Mr. G. D. Hughes. Oldbury, Mr. C. Tonge, Chemist. Southampton, Mr. Joseph Clark. Southsea, Mr. T. Cheesman. Tralee, Mr. H. Benner. Wexford, Mr. Thomas Waring.

Rio de Janeiro, Messrs. Miers Brothers and Maylor, Engineers. Odessa and South Russia, Mr. W. Baxter, Engineer, Nicolaieff.

Belgium, Messrs. Breals Brothers, Engineers, Antwerp. Holland, Mr. Jos. Courlander, the Hague.

PATENT BITUMINIZED GAS, WATER, AND DRAINAGE

PIPES.—These PIPES POSSESS all the PROPERTIES NECESSARY for the CONVEYANCE of GAS and WATER, and also for DRAINAGE PURPOSES—viz., GREAT STRENGTH, GREAT DURABILITY, and PERFECT INOXIDABILITY, and being non-conductors are not affected by frost, like metal pipes. They are proved to resist a pressure of 220 lbs. on the square inch (equal to 500 ft. head of water), are only one-fourth the weight, and considerably cheaper than iron pipes. They are made in 7 ft. lengths, and the joints are simple and inexpensive. These pipes have been in use in France, Spain, and Italy nearly three years, where the demand for them is very great. The opinions of the press on a public test at the Houses of Parliament, before a large number of engineers and other scientific gentlemen, may be had, with further particulars, at the office of the company, on application to Mr. ALEX. YOUNG, 14a, Cannon-street, London, E.C., where sample pipes may be obtained for trial.

BASTIER'S PATENT CHAIN PUMP. APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, &c.

J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects, farmers, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unites lightness with a degree of durability almost imperishable. By means of this hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion. The following statement presents some of the results obtained by this hydraulic machine, as daily demonstrated by use.

- 1.—It utilizes from 90 to 92 per cent. of the motive power.
- 2.—Its price and expense of installation is 75 per cent. less than the usual pumps employed for mining purposes.
- 3.—It occupies a very small space.
- 4.—It raises water from any depth with the same facility and economy.
- 5.—It raises with the water, and without the slightest injury to the apparatus sand mud, stone, and every object of a smaller diameter than its tube.
- 6.—It is easily removed, and requires no cleaning or attention.

A mining pump can be seen daily at work, at Whetnall Mine, South Sydenham, Devon, near Tavistock; and a shipping pump at Woodside Graving Dock Company (Limited), Birkenhead, near Liverpool.

J. U. BASTIER, sole manufacturer, will CONTRACT TO ERECT HIS PATENT PUMP AT HIS OWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will GRANT LICENSES to manufacturers, mining proprietors and others, for the USE of his INVENTION.

OFFICES, 19, MANCHESTER BUILDINGS, WESTMINSTER, LONDON.

London, Oct. 10, 1859. Hours, from Ten till Four. J. U. BASTIER, C.E.

SARL AND SONS, 17 and 18, CORNHILL, respectfully

SOLICIT A VISIT to their magnificent ESTABLISHMENT. The ground floor is more particularly devoted to the display of FINE GOLD JEWELLERY, GOLD and SILVER WATCHES, and FINE GOLD CHAINS.

The SILVER PLATE DEPARTMENT is in the gallery of the building, and consists of every article requisite for the table and sideboard.

In the magnificent show-rooms is displayed a large and beautiful stock of ARGENTINE PLATE, the manufacture of which has stood the test of 20 years' experience.

SARL and Sons have also fitted up a separate show-room for the display of DRAWING and DINING ROOM CLOCKS of the most exquisite designs. Books containing drawings and prices may be had upon application.

SARL AND SONS, 17 and 18, CORNHILL, LONDON.

AUSTRALIA AND NEW ZEALAND

WHITE STAR EX-ROYAL MAIL CLIPPERS,

SAILING FROM

LIVERPOOL to MELBOURNE on the 1st and 20th of every month.

* Passengers holding Victoria passage warrants will be forwarded to Melbourne by these vessels.

Ship. For Register. Burthen. To sail.

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[From the Daily Post of March 1, 1861.] On Wednesday, the 27th of February, a series of EXPERIMENTS on WIRE-ROPE took place at the Corporation Testing Works, King's Dock. The specimens tested were manufactured by the well-known firm of A. J. HUTCHINGS and Co., of Millwall, London, the Contractors to the Lords of the Admiralty and various foreign Governments, the character of whose rope is so well known in this country, as well as all parts of the Continent.

Capt. Duerant, of H.M.S. *Hastings*, and a number of other gentlemen connected with shipping, were present to witness the experiments, all of which were considered highly satisfactory, and in every respect sustained the reputation of the manufacturers.

The following are the results of the experiments:—An 8 in. rope bore 70 tons WITHOUT BREAKING. Circumference and breaking strain.

10½ tons 14 tons 20 tons 27 tons 29 tons 32½ tons 45½ tons N.B.—The 2½, 3, and 4 in. ropes were the sizes actually tested. The remaining sizes and strains are comparative.

THE ABOVE ROPES ARE FOR COLLIERY USE.

Hutchings and Co.'s wire-rope for ships' rigging. Tested Feb. 27, 1861.

Newall and Co.'s Test of Oct. 29, 1860.

Garnock, Bibby, and Co.'s Test, Oct. 29, 1860.

2 5 tons 15 cwt. 7 tons 15 cwt. 8 tons 16 cwt.

2½ 11 " 14 " 16 " 10 " 18 " 5 "

3½ 22 " 10 " 16 " 10 " 18 " 15 "

4½ 29 " 10 " 18 " 15 " 26 " 10 "

4½ 37 " 15 " N.B.—The 2, 3½, and 4 in. ropes were the actual sizes tested. The remaining sizes and strains are comparative.

The above tests certified by Mr. McDonald the Superintendent of the Corporation Testing Works, Liverpool.

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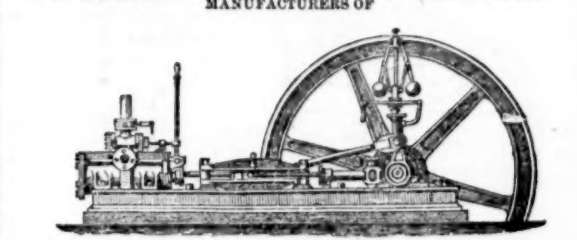
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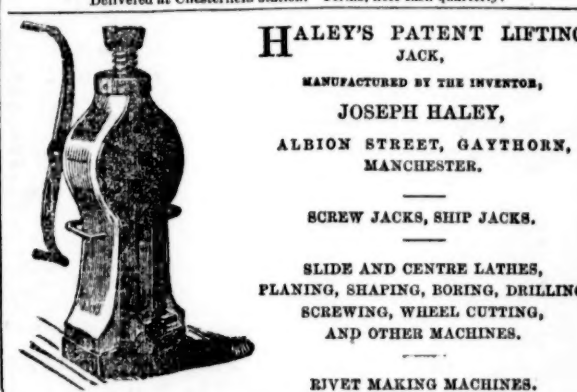
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ONE 14 in. cylinder, 24 in. stroke. TWO 20 in. cylinder, 36 in. stroke.
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No. 4 " 22 " 40s. "
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THE NEWCASTLE CHRONICLE AND NORTHERN COUNTIES ADVERTISER. (ESTABLISHED 1764

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DIVIDEND MINES.				
Shares.	Mines.	Paid.	Last Pr.	Bus. done.
4000	Bedford United (copper), Tavistock.	2 6 8	5	4 1/2
240	Boscan (tin), St. Just.	20 10 0	50	
200	Botallack (tin), St. Just.	15 0 0	210	
1600	Carn Brea (copper), Illogan.	16 0 0	68	65 70
2048	Carnyorth (tin), St. Just.	3 10 0	13 1/2	
300	Cefn Cwm Brynno (lead), Cardigan.	33 0 0	33	
50000	Connorree (copper), Sulphur [L. £1].	1 0 0	37 1/2	
2450	Cook's Kitchen (copper), Illogan.	17 0 0	29	30 31
12000	Copper Miners of England.	25 0 0	25	
30000	Ditto ditto (stock).	100 0 0	24	
1055	Knock Moor (copper), St. Cleer.	8 0 0	26	
867	Cwm Erwin (lead), Cardigan.	7 10 0	16 1/2	
128	Cwmystwith (lead), Cardigan.	60 0 0	240	
280	Dorwent Mines (all-lead), Durham.	300 0 0	180	
1024	Devon Gt. Cons. (cop.), Tavist. [S.E.]	1 0 0	355	350 360
358	Dolcoath (copper), tin, Camborne.	128 17 6	510	
512	East Bassett (cop.), Redruth [S.E.]	29 10 0	77 1/2	80 85
6144	East Caradon (copper), St. Cleer [S.E.]	2 14 6	26	27 1/2 28 1/2
300	East Darwen (lead), Cardigan.	32 0 0	67	
2048	East Wharf (tin), Wenden.	1 0 0	—	
1000	Evan Mining Co. (lead), Derbyshire.	5 0 0	—	
4400	Foxley Consols (copper), Tywardreath.	4 0 0	5	
2560	Foxdale, Isle of Man, Limited (lead)	25 0 0	35	
6000	Frank Mills (lead), Devon.	3 18 6	4 1/2	
6000	Great South Toisus [S.E.], Redruth.	0 14 6	4 1/2	4 1/2
1798	Great Wheal Fortune, Breage.	18 0 0	12 1/2	12 1/2 13
1008	Great Wh. Vor (tin, cop.), Helston [S.E.]	40 0 0	36	
1024	Herodsfoot (id.), near Liskeard [S.E.]	8 10 0	36	34 35
1000	Hibernian Mine Company.	52 0 0	95	
1600	Levant (copper), tin, St. Just.	18 10 0	125	
400	Liburnia (lead), Cardigan.	18 10 0	125	
9000	Marka Valley (copper), Caradon.	4 10 0	10 1/2	10 10 1/2
6000	Mendip Hills (lead) [L.], Somerset.	3 15 0	14 1/2	
1800	Minera Mining Co. [L.], (id.), Wrexham.	25 0 0	180	
2000	Miner Co. of Ireland (cop., lead, coal).	7 0 0	14	14 1/2 14 1/2
640	Mount Pleasant, Mold.	4 0 0	25	
6000	New Birch Tor and Viffier Consols.	1 6 6	2	
6000	North Downs (copper) Redruth.	2 3 4	5	5 1/2 5 1/2
1866	North Gribbler, Redruth.	2 7 6	6	
6000	North Great Work, Breage.	0 0 0	13 1/2	
6000	Ordsell (lead), Flintshire.	0 0 0	13 1/2	
6400	Par Consols (cop.), St. Blaize [S.E.]	1 2 0	10	9 10
200	Parys Mines (copper), Anglesey [L.]	50 0 0	—	
200	Phenix (copper), tin, Linkinghorne.	100 0 0	485	
1772	Polberrow (tin), St. Agnes.	5 0 0	—	
1120	Providence (tin), Uny Lelant [S.E.]	10 6 7	37 1/2	38 40
16	Rhosmor.	60 0 0	—	
512	South Caradon (cop.), St. Cleer [S.E.]	1 5 0	305	295 305
512	South Toisus (cop.), Redruth, Cornwall.	8 0 0	40	
496	South Wheal Frances, Illogan [S.E.]	18 10 0	127 1/2	120 125
280	Spearhead Moor (tin, cop.), St. Just.	31 17 9	31	
340	St. Ives Consols (tin), St. Ives.	0 0 0	31	30 31
6000	Tamar Con. (all-ld.), Beaulieu [S.E.]	4 10 0	15 1/2	15 1/2 15 1/2
6000	Tinctor (cop., tin), Pool, Illogan [S.E.]	9 0 0	57 1/2	57 1/2 57 1/2
6000	Tolvaaden (copper), Marazion.	—	2 1/2	
572	Trevelyan Consols (tin), St. Ives.	11 10 0	12 1/2	14 16
200	Trumpet Consols (tin), near Helston.	57 10 0	100	
1024	Wendron Consols (tin), Wendron.	11 10 0	12	
6000	West Bassett (copper), Illogan [S.E.]	1 10 0	18	16 17
600	West Barton Gill (lead), Yorkshire.	60 0 0	—	
1024	West Caradon (cop.), Redruth [S.E.]	18 10 0	39 1/2	37 38
256	West Damsel (copper), Gwennap.	87 0 0	85	
6400	West Fowey Consols (tin and copper).	7 10 0	5	
400	W. Wh. Seton (cop.), Camborne [S.E.]	17 10 0	325	322 1/2 327 1/2
512	Wheal Bassett (copper), Illogan [S.E.]	5 2 6	87 1/2	
256	Wheal Buller (cop.), Redruth [S.E.]	5 0 0	95	90 95
2900	Wh. Clifford Amalgamated (cop.), Gwennap.	30 0 0	—	
2000	Wheal Falmouth and Sperris.	2 5 0	8	
128	Wheal Friendship (copper), Devon.	60 0 0	90	
512	Wheal Jane (silver-lead), Kes.	3 10 0	18	
1024	Wheal Kitty (tin), Uny Lelant [S.E.]	11 10 0	11	
496	Wheal Lode (tin), St. Ives.	3 10 0	11	3 1/2
496	W. Margaret (tin), Uny Lel. [S.E.]	9 17 6	40	41 43
100	Wheal Mary (tin), Lelant.	36 2 6	440	
1024	Wh. Mary Ann (id.), Menheniot [S.E.]	0 0 0	10	9 10
80	Wheal Owles, St. Just, Cornwall.	70 0 0	300	
6000	Wicklow (copper) [L.], Wicklow.	5 0 0	58 1/2	59

* Dividends paid every two months. † Dividends paid every three months.

MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
700	Aberdovey (silver-lead), Merioneth.	1 10 0	30	
5120	Alfred Consols (cop.), Phillack [S.E.]	2 17 1	1	3 1/2
1624	Ballicawadden (tin), St. Just.	11 8 0	12	
1200	Brightside & Froggatt Grove, Derby.	15 10 0	20	21 23
200	Brynford Hall (lead), Flintshire.	15 10 0	20	
2500	Central Minera (lead) [L. £5].	0 15 0	5 1/2	
6000	Charlotte United, Perranruthoe.	2 3 2	21 1/2	24 1/2
2000	Collincoombe (copper), Lamerton.	5 5 0	12	
256	Condurow (cop., tin), Camborne.	20 0 0	60	
256	Copper Hill (copper) Redruth.	48 0 0	100	119 1/2 117 1/2
4076	Devon and Cornwall (copper).	4 16 3	4	
672	Ding Dong (tin), Gwilt.	39 2 6	19	
12800	Drake Walls (tin, copper), Calstock.	2 0 0	—	18s. 20s.
2048	East Gwilt (all-ld.), Penryn, Kes.	2 10 0	17	
128	East Pool (tin, copper), Pool, Illogan.	24 5 0	400	
6000	General Mining Co. for Ire. (cop., id.)	4 0 0	5 1/2	5 1/2 5 1/2
486	Gribbler and St. Aubyn (cop.) [S.E.]	47 10 0	12	
119	Great Work (tin), Gernoe.	100 0 0	110	
200	Harward United (lead), Flintshire.	40 0 0	10	
6000	Hington Down Con. (cop.), Cals. [S.E.]	4 18 0	2	3 3 1/2
5000	Kelly Bray (lead, copper), Callington.	4 6 0	1	
200	Laxey Mining Company, Isle of Man.	100 0 0	1200	
470	Newtownards Mining Co., Co. Down.	50 0 0	35	
700	North Bokerup (copper), Camborne.	16 0 0	17	
1024	Rosewarne and Herland United.	11 8 1	17	
512	Rosewarne United (cop., tin), Gwinnar.	18 4 4	21 1/2	
12000	Sordridge Con. (cop.), Whitchurch [S.E.]	0 16 0	12 1/2	10s. 12s.
128	South Crinins (copper), St. Austell.	19 0 0	285	
20000	St. Day United (tin and cop.), Redruth.	2 7 0	36	
20000	Valley of Towy (lead), Carmarthen [S.E.]	0 13 6	6s.	
1024	West Providence (tin), St. Erth.	15 10 0	15	
400	Wheal Ball (tin), St. Just.	15 0 0	16	
400	Wheal Edward (cop.), Calstock [S.E.]	7 7 6	24 1/2	2 1/2
1024	Wheal Gwilt (tin), Penryn.	1 4 0	4	
8000	Wheal Kitty (tin), St. Agnes.	33 0 0	7	
345	Wheal Lode (tin), Wendron.	15 13 0	6	
1024	Wheal Margery (tin, copper).	15 13 0	6	
396	Wheal Merton (copper), Camborne.	58 10 0	80	75 80
1040	Wh. Trevelyan (all-ld.), Liskeard [S.E.]	5 17 0	14	
1022	Wheal Tremayne (tin, cop.), Gwinnar.	13 2 6	5	
400	Wheal Wrey Consols (lead), St. Ives.	3 9 0	3 1/2	

FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
2464	Burra Burra (cop.), South Australia.	5 0 0	135	
12000	Cobre Copper Co. (cop.), Cuba [S.E.]	40 0 0	37	35 37
10000	Copiapu Mining Company, Chile [L. £1] [S.E.]	16 0 0	8	
15000	East Indian Coal, Calcutta [L.]	10 0 0	10	
70000	English and Australian [S.E.]	5 0 0	3 1/2	
20000	Gen. Mining Assoc., Nova Scotia [S.E.]	120 0 0	24	
68000	Kapunda Mining Co., Australia [S.E.]	1 0 0	2 1/2	
15000	Lusitana (id.), Pozo Ancho, Spain [S.E.]	3 0 0	7 1/2	
10000	Lusitana (id.), Pozo Ancho, Spain [S.E.]	2 0 0	2	
10000	Marigatta and New Granada [S.E.]	1 0 0	1 1/2	
100000	Port Phillip (gold), Cline [S.E.]	1 0 0	1	
11000	St. John del Rey [L.], Brazil [S.E.]	15 0 0	36 1/2	38 39
20000	West Canada Mining Company [L.],	1 0 0	1 1/2	

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
10000	Altan and Quensang (tin, cop.) [L. £5]	4 10 0	3	
10000	Gt. Barrier Lead, Min. & Co. [L. £5]	4 8 0	3 1/2	
10000	Pontgibaud (all-lead), France [S.E.]	20 0 0	4	
4874	Unif. Mexican (all-lead), Mexico [S.E.]	28 0 0	5 1/2	5 1/2

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.
20000	Australian (copper), South Australia [S.E.]	7 7 6	1 1/2	
75000	Barr Accord, South Australia (copper) [L. £1] [S.E.]	0 17 6	1 1/2	
6000	Central American (silver) [L.]	5 0 0	1 1/2	
17000	Central Italian (copper) [L.]	0 6 0	—	
60000	Clarendon Consols (copper), Jamaica [S.E.]	10 17 6	—	
10000	Copapo Smelting [L.], Chili	10 0 0	8 1/2	
75000	Dun Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	1 1/2	
30000	East Kensington Native Silver Mining Co. of Norway [L. £5]	1 0 0	1	
30000	Ellerslie and Bardowie, Jamaica	0 18 0	1 1/2	
8000	English and Canadian Mining Company [L.]	5 0 0	—	
25000	Fortuna (lead), Spain [L.] [S.E.]	2 0 0	2 1/2	
80000	Great Northern (copper), South Australia [L. £2] [S.E.]	1 0 0	1 1/2	1 1/2
4000	Great Silver-lead and Copper Mining Co. [L.], Jamaica	25 0 0	—	
50000	Imperial Thessalonian (lead, &c.), Thessaly [L. £2]	0 10 0	—	
20000	Lagunero (sulphur-copper), Portugal [L. £1]	0 10 0	—	
10000	New Granada (gold), South America [S.E.]	1 0 0	1	
10000	New Grand Duchy of Baden (silver-lead), near Freiburg.	1 0 0	1	
60000	North Rhine Copper of South Australia [L. £1] [S.E.]	0 12 6	—	
15000	Pachusa Silver Mining Company, Mexico [L. £5]	0 10 0	1 1/2	
80000	Scottish Australian Mining Company [L.]	0 10 0	—	
15000	South Europe Mining Company, Spain [L. £5]	3 0 0	—	
50000	St. John's United (copper, lead), Newfoundland [L. £1]	0 10 0	—	
45000	Victor Emanuel, Italy [L.] [20,000 Pref. Shares, 6d. pd., 25,000 £1 pd.]	1 10 0	—	
1000	Western Africa Malachite (copper) [L.]	110 0 0	—	
12000	Wheal Ellen, South Australia [L. £5]	4 0 0	2 1/2	
34545	Wheal Jamaica (copper)	4 0 0	1 1/2	
80000	Worthing (copper), South Australia [L.] [S.E.]	1 0 0	—	

PROGRESSIVE MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
4825	Abbey Consols (id.) Cardigan.	2 7 0	1		Nov. 1860
1000	All-ty-Crib (lead) [L. £5]	2 8 6	2		June, 1861
4000	All-ty-Maen (lead) [L. £1]	0 5 0	12 1/2		July, 1859
10000	Anzarrack (copper), Phillack.	1 6 1	1 1/2		June, 1859
1000	Ashburton United (cop., tin)	11 10 0	14 1/2		Mar. 1861
10000	Bampfylde (copper), Devon.	0 15 0	4		Aug. 1860
4000	Bedford Consols (copper).	1 19 6	4s.	2s. 4s.	July, 1861
2000	Berehaven (copper), Ireland.	1 0 0	1 1/2		July, 1861
7500	Bickleigh Vale Phoenix [L.]	2 0 0	2 1/2		Fully paid.
200	Billins (lead) [L. £30]	20 0 0	20	15 20	Feb. 1861
10000	Borlase Con. (tin), St. Just [L.]	1 0 0	1 1/2		Fully paid.
1248	Boscawell (tin), Penzance.	6 5 0	8		Dec. 1860
2280	Boscawell (tin, cop.), St. Austell.	6 15 0	4		Sept. 1860
160	Bosorne & Bolwell, St. Just.	6 5 0	10		Dec. 1860
123	Bowdland and Wheal Castle	82 0 0	—		Nov. 1858
1070	Bowdland (tin), Sancerre.	1 0 0	1 1/2		June, 1860
5000	Bottle Hill (tin), Plympton.	1 0 0	1		June, 1861
12000	Brea Con. (tin), St. Ives [L. 30s.]	1 0 0	22s.		Jan. 1861
5000	Bronfloyd (id.), Cardigan [L.]	2 0 0	4 1/2		June, 1861
112	Brown-Haugh (id.), Denbigh.	20 0 0	20		No call.
4000	Brookwood (lead), Flint.	1 5 0	3 1/2		Mar. 1861
1200	Brynffell [L.] [600 £1, 600 £5 pd.]	—	—		April, 1861
500	Bryn Gwlog (lead), Flint.	4 0 0	26		Oct. 1859
2000	Bryntall, Llanidloes, Montgo.	5 7 0	4		Aug. 1861
1250	Buddick Consols (tin), Ferran.	1 2 0	1 1/2		June, 1861
4380	Buller and Bassett Unit (cop.)	2 0 0	1 1/2		June, 1861
2448	Bwlich (all-ld.), Cardiganhire	4 9 0	24 1/2		Nov. 1860
4096	Calstock Consols (copper)	5 10 0	6 1/2		Dec. 1860
915	Calvadnack, Wendron	18 5 0	7	8 1/2 9	Mar. 1861
1000	Camborne Consols (copper)	16 10 0	8		June, 1861
4000	Camborne Vein & Wh. Francis	7 12 4	2 1/2	1 1/2 2 1/2	July, 1861
914	Caradon Cons. (cop.), St. Cleer	21 12 0	—		June, 1861
1000	Cardigan Consols [L. £10]	7 0 0	9		Mar. 1861
916	Carlisle (silver-lead), Newlyn	15 7 0	14	14 15	Sept. 1860
6000	Carn Camborne.	0 7 0	13 1/2	13 1/2	May, 1861
984	Carnvann (id., cop.), Marazion.	1 0 0	—		June, 1861
3000	Carn Vrian (tin, cop., lead).	1 19 6	2 1/2		April, 1861
7000	Carraek Dewa	2 16 0	1		April, 1861
1056	Carvannall (cop.), Gwennap.	21 11 7	3		Dec. 1860
10000	Carway and Duffryn [L.]	4 0 0	5		Fully paid.
20000	Carysfort (cop., id.) [L. £24 1/2]	0 10 0	8s. 6d.		Mar. 1859
25000	Casara (lead), Carma. [L. £1]	0 8 0	12 1/2		Dec. 1860
3000	Castleward, Ireland [L. £1]	0 10 0	16s. 6d.		Sept. 1860
2500	Clara Clifton (lead), Llanidloes.	2 0 0	1 1/2		July, 1861
4000	Clara United (all-ld.) [L. £2]	2 0 0	1 1/2		July, 1861
984	Clijah & Wentworth (tin, cop.)	28 0 6	2	1 1/2 2	Oct. 1860
6000	Clifton and Edgcombe United	1 0 0	1 1/2		Oct. 1860
3185	Cod Mawr Pool (lead) [L.]	4 7 0	4		June, 1861
2560	Coedmydy (lead), near Mold.	1 0 0	21s.		No call.
5000	Cornubia (tin), Roche	0 15 0	1		April, 1861
10000	Craigton (id.) [L. £1] Kirkcud.	0 10 0	3 1/2		June, 1859
908	Craen (copper), Camborne	8 10 0	6 1/2		July, 1861
3000	Craven Moor (id.), Yorkshire.	0 10 0	4s.	3s. 4s.	No call.
12000	Crelake (cop.), Tavistock.	—	3		No call.
8000	Crookhaven (all-ld.) [L. £4 1/2]	1 0 0	3 1/2		June, 1861
2000	Crowlwm (lead), Llanidloes.	1 10 0	7 1/2		No call.
6000	Crownwells (cop.), Tavistock.	0 11 0	3		Nov. 1858
5000	Cuddra (cop., tin), St. Austell	2 4 0	1 1/2		Aug. 1861
7000	Cwm Afon (cp.), Festi. [L. £1]	0 19 0	—		Fully paid.
21000	Dale, North Staffordshire [L.]	1 0 0	16s.	1/2 3/4	Dec. 1860
4817	Devon and Courtenay (cop.)	1 9 0	11s.		Mar. 1861
5000	Devon Great Wheel Ellen	2 0 0	—		Mar. 1861
12000	Dev. New Copper Co. [L. £2]	—	2		—
12000	Devon Union (copper) [L. £1]	0 12 6	3 1/2		May, 1861
1000	Dillon Wheel (copper)	3 11 6	6		June, 1861
1000	Duro (tin), Lelant	6 12 0	7 1/2		Mar. 1861
2000	Duloch United [L. £5]	1 0 0	2 1/2		June, 1860
5000	Duluth (tin), [2048 £2 1/2 pd., 2992 £4 pd.]	—	—		—
8000	Dyfnagwm (lead), Wales	13 6 6	9 1/2		Sept. 1858
244	Eaglebrook (lead), Cardigan.	75 10 0	12	11 12	June, 1861
4096	East Alfred Consols (copper).	3 16 8	31s.		Sept. 1861
3000	E. Beam (tin), St. Aus. [L. £2]	0 10 0	1 1/2		Aug. 1861
6000	E. Bertha Con. (cop.), Tavist.	0 17 0	1 1/2		July, 1861
6000	East Budbad and Mount	0 10 0	9s.		Jan. 1861
6000	East Cam Brea (cop.) Redruth	3 5 0	8	8 1/2	June, 1861
6400	East Crinns (all-ld.) [L. £1]	0 16 0	—		Mar. 1861
4000	East Devon Gt. Consols (cop.)	0 11 6	2 1/2		June, 1861
4000	East Fowey (cp.) [L. 50s.]	0 1 0	1 1/2		June, 1861
4000	E. Grenville (cp.), Camborne	0 16 6	41s.	38s. 40s.	July, 1861
4000	E. Gunns Lake & S. Bedf. (cp.)	5 9 6	3 1/2	3 1/2 3 1/2	Mar. 1861
12000	East Mona (cop., &c.) [L. £1]	0 5 0	—		May, 1861
8000	East Polbero, St. Agnes	0 5 0	1 1/2		May, 1861
4096	E. Providence (tin), Uny Lel.	2 3 5	1 1/2		June, 1861
6000	E. Releath (tin, cop.), Wendron	0 10 0	1		Aug. 1860
6000	E. Rosewarne (cp., tin), Gwin.	0 10 0	1 1/2	1 1/2	May, 1860
1125	E. S. Selton, Camborne	0 2 0	6 1/2		May, 1861
256	East Tolgus (lead), Llanidloes.	6 10 0	—		June, 1861
1000	E. Trevisia (cop.), Gwennap.	7 10 0	3 1/2		June, 1861
1024	E. Trekerby (cp.), Redruth.	3 10 0	2		July, 1861
1190	E. Wheal Agar (cp.), St. Cleer	8 7 0	2		July, 1861
6000	E. Wh. Ellen (all-ld.), St. Ives	0 10 0	3 1/2		July, 1860
4000	E. Wh. Russell, Tavist.	7 4 0	3 1/2	3 1/2 3 1/2	Nov. 1859
5700	Exmouth (all-ld.), Christow.	5 14 0	1 1/2		July, 1861
6000	Fowey and Par Unit, St. Blazey	0 10 0	1 1/2		Nov. 1860
5000	Furdon (cp.) Okeham [L. 30s.]	1 5 0	2 1/2		Aug. 1860
6000	Fraser Hill Wood Cons., Beckl.	0 5 0	14s.		June, 1861
114	Garden (lake), Mawgan.	22 0 0	—		June, 1861
1000	Garreg (lead), Flint.	8 6 0	2 1/2		June, 1861
4000	Gawton (copper), Tavistock.	1 12 0	1 1/2	1 1/2	June, 1861
1024	Gillflower (id.), Holywell.	0 2 6	5s. 6d.		June, 1861
6000	Gernick (copper), Cironau	0 10 0	3 1/2		June, 1861
4892	Goginan (silver-ld.) [1900 £12 1/2, 2992 £2]	2 10 0	2		July, 1860
6144	Gonamena (copper), St. Cleer.	2 10 0	2		Mar. 1861
2000	Goonzlon, St. Neot	0 2 6	4s.		Feb. 1861
5000	Great Brizgan.	3 7 0	2 1/2		June, 1861
6000	Great Caradon (cop.), St. Ives	1 8 0	3 1/2		June, 1861
6000	Great Crinns (cop.), St. Austell	2 4 0	1 1/2	1 1/2 1 1/2	June, 1861
10000	Great Moelwyn (cop.), Redruth	2 17 6	2 1/2		Aug. 1861
4000	Gt. No. Tolgus (cop.), Redruth	2 17 6	2 1/2		Aug. 1861
10104	Great Onslow Cons., Camelf.	3 10 9	3 1/2		Dec. 1860
6000	Gt. Retallack (all-ld., blende)	1 7 0	21s.	25s. 27s.	June, 1860
47000	Gt. Tregune Con. [40,000 £4 1/2, 7000 £4 pd.]	—	—		—
10000	Great Treveddow (copper)	0 14 0	3 1/2		Aug. 1861
6000	Gt. Tywarthalle (cp.) [L. £5]	3 0 0	3		Jan. 1861
3730	Great Wheel Badern (tin).	4 14 0	3 1/2	3 1/2 3 1/2	July, 1861
6000	Gt. Wh. Buss (cop., tin), Ken.	13 0 0	5s. 4s. 5s.	5s. 5s.	July, 1861
12500	Great Wh. Maria (cop.), Redruth	1 0 0	1 1/2	1 1/2 1 1/2	Fully paid.
10240	Gunnis Lake (lake), Clifton.	1 12 0	4		June, 1861
5000	Gurlyng (cop., tin), St. Ervi.	1 10 0	8		June, 1861
8634	Gwyddr Park Con., Llanrwst.	10 15 3	3s.		June, 1861
6400	Harwood (id.), Durham [L. £1]	0 3 6	3		July, 1861
7219	Hawkmoor (tin, cop.) Calstock	2 17 6	—		Mar. 1861
5000	Holmbush (id., cp.) Callington	5 2 0	2 1/2	2 1/2	Sept. 1860
6000	Huckworthy Bridge (copper).	0 18 0	3 1/2		July, 1861
40	Imperial Silver-Lead, Dolgelly	25 0 0	30		Mar. 1861
6000	Kewick (lead), Portlincase	5 0 0	1 1/2		July, 1861
6000	Leath Bertha (cop.) [S. E.]	1 12 6	17s.	16s. 18s.	July, 1861
2200	Lead Eliza (id.) [L. £2]	2 0 0	3 1/2		July, 1861
1019	Leeds & St. Aubyn (tin, cop.)	12 12 0	4		Mar. 1861
963	Lelant Cons. (tin), Uny Lelant	32 10 0	2 1/2		Mar. 1861
1000	Llanfair (silver-lead) [L.]	6 0 0	5		Fully paid.
8000	Lywernock United, Card. [L.]	1 16 0	1 1/2		July, 1859
500	Long Lake (lead), Flint	10 0 0	10	13 15	May, 1861
2000	Lower Park Denbighshire [L.]	4 0 0	—		—
4968	Maudlin Mines [2484 £6, 2484 £1 pd.]	—	2 1/2		—
4540	Merilyn (lead), Flint	3 11 6	1	17s. 19s.	July, 1861
2200	Merryfield (lead) [L.]	0 12 0	4s.	3s. 4s.	May, 1860
1000	Milly (lead), Flint.	0 1 0	9s.		June, 1861
1024	Mill Pool (lead), Flint.	1 12 0	4		July, 1859
16000	Mold (lead), Flint. [L. £1]	0 17 0	7 1/2		Jan. 1860
6411	Molland (cop.), S. Moulton.	2 0 0	2s.		July, 1861
5000	Nance Valley	0 5 0	1		Aug. 1860
1024	Nanglies (tin, cop.), Ken.	3 0 0	6		Jan. 1861
5000	Nanteos and Penrhif [L. £4]	3 6 0	2 1/2		June, 1861
2400	Nant-y-lago (id.), Merioneth	3 0 0	2 1/2		Mar. 1861
250	Nanty Mines (id.), Montgom.	20 0 0	—		Fully paid.
6400	Nether Heath (lead), Duffon.	0 15 6	3 1/2		April, 1860
6400	N. Crow Hill (cp.), St. Stephen	1 9 16	1 1/2		July, 1861
6000	New Treleigh (lead), Redruth	13 13 6	38s. 40s.		July, 1861
2000	New Wheel Clifford (copper).	0 6 0	—		Mar. 1861
6144	New Wheel Francis, Crown.	0 16 6	3 1/2	7s. 9s.	May, 1861
1024	New Wheel Hender, Crown.	2 10 0	3		June, 1861
4000	New Wh. Beton (cop.), Camb.	13 10 0	46	40 45	May, 1861
2900	New Wh. Vor & E. Wh. Metal	9 0 0	—		Aug. 1861
2048	N. Wh. Vaddon (cop.), Marazion	0 19 6	1 1/2		July, 1861
6000	Nidderdale (id.), Yorks. [L. £1]	0 15 0	3 1/2		Jan. 1861
90	N. Budnick (tin, id.), Ferranz.	1 10 0	40		No call.
1024	N. Budnick and West Mount	0 5 0	—		—
1024	N. Buller (cop.), Gwennap	2 0 0	5	4 1/2 5	Aug. 1861
6000	Nor. Clifford (cop.) Gwennap	0 7 0	3 1/2		Nov. 1860
20000	North Devon (all-ld.) [L. £1]	0 7 0	3 1/2		April, 1861
5000	N. Dolcoath (cop.), Camborne	2 4 6	3 1/2	14s. 16s.	Aug. 1861
5792	No. Downs and Wh. Rose Unit	1 18 0	1 1/2		April, 1861
2500	North Frances, (cop.) [S. E.]	13 5 0	4	3 1/2 4 1/2	June, 1861
4000	N. Hallenbegie (tin, cp.) [L.]	0 10 0	1 1/2		April, 1861
2000	North Jane (tin, silver-lead)	3 0 0	2 1/2		June, 1861
6000	N. Laxey (id.) [L. of Man [3600 £2, 2400 £1]]	1 10 0	1 1/2		June, 1861
2000	N. Levant (tin, cop.), St. Just	6 16 6	6		Aug. 1861
4000	N. North Rose, Gwinnar.	0 4 6	4s. 6d.		Dec. 1860
5000	N. Trevelth (all-ld., cp.) Padstow	1 0 0	1 1/2	23 25	Feb. 1861
848	N. Trekerby (cop.), St. Agnes	10 3 9	23 1/2		Dec. 1860
6000	N. Trevelth (all-ld., cp.) Padstow	1 0 0	1 1/2	4 1/2 5 1/2	Aug. 1860
1024	North Wheel Buss (cop., &c.)	9 17 7	4 1/2	5 1/2 6 1/2	Sept. 1860
1122	North Wheel Croft [S. E.]	9 14 0	6 1/2	5 1/2 6 1/2	Sept. 1860
4000	N. Wh. Exmouth (cop., lead)	2 7 0	—		July, 1861
2000	North Wheel Prospindick	0 6 0	3 1/2		Nov. 1860
5000	N. Wh. Providence (tin, cop.)	0 12 6	1 1/2		May, 1861
6144	N. Wh. Robert, Samp. Spiney	2 12 11	4 1/2	12s. 14s.	July, 1861
4108	North Wheel Trelawny (lead)	3 0 6	3 1/2		July, 1861
5900	North Wheel Vor (tin), Breage	3 0 0	—		June, 1861
4000	N. Wrey (id.), St. Ives [L. £2]	0 12 0	1 1/2		June, 1861
4096	Old Trevelth (all-ld., cp.) Calstock	1 17 0	4 1/2	5 1/2	Sept. 1860
600	Old Tolgus United (cop., hars.)	41 18 0	13		Aug. 1861
800	Pant-y-Buarth (id.) [L. £10]	6 0 0	20		Aug. 1861
200	Pant-y-Pwryd (id.), Flintshire	10 0 0	20		Sept. 1860
8465	Pend-an-drae United (tin)	3 2 6	3 1/2		Mar. 1861
3200	Pelyn Wood (cp.), Lostwith	2 7 6	—		May, 1861
12000	Pemraeg United (id.) [L. £1]	0 5 0	—		May, 1861
5000	Pendennis Consols, St. Just.	3 12 0	4 1/2	5 1/2	Aug. 1861
1000	Pennegna (id., sil.) St. Kew.	4 10 0	6 1/2		May, 1861
512	Penhaladara (lead), Breage	16 0 0	15		Oct. 1860
5000	Penhalda (tin, copper)	4 4 0	5 1/2		July, 1861
5000	Penballig (lead), Penzance	4 4 0	5 1/2		